JULY 13, 1935

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Railway Age

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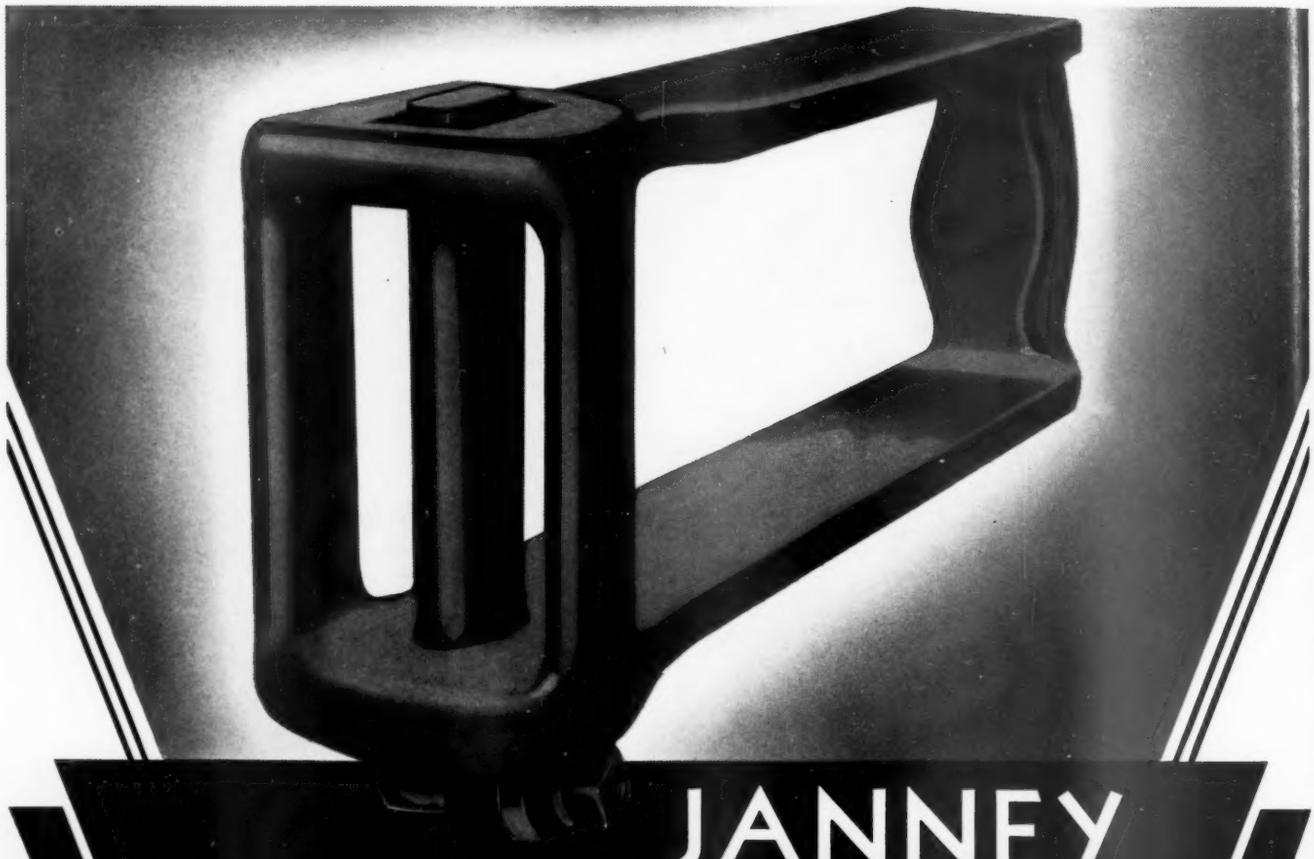

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In This Issue

Shriners Housed in Air-Conditioned Cars ..... Page 36

Tells how mechanically-cooled cars were parked by the Baltimore & Ohio in Washington to provide housing facilities for persons attending convention.

Private Freight Cars Serve Both Railroads and Shippers 40

LeRoy Kramer, vice-president, General American Transportation Corporation, Chicago, finds it uneconomic for railroads to own, maintain and distribute the many types of cars needed to meet modern service requirements.

Superintendents Discuss Operating Problems 47

Presents abstracts of three committee reports considered at the recent Chicago convention of the American Association of Railroad Superintendents.

EDITORIALS

How Much Recovery Has Been Made? 33
Straight Thinking Needed on Highway Taxation 35

GENERAL ARTICLES

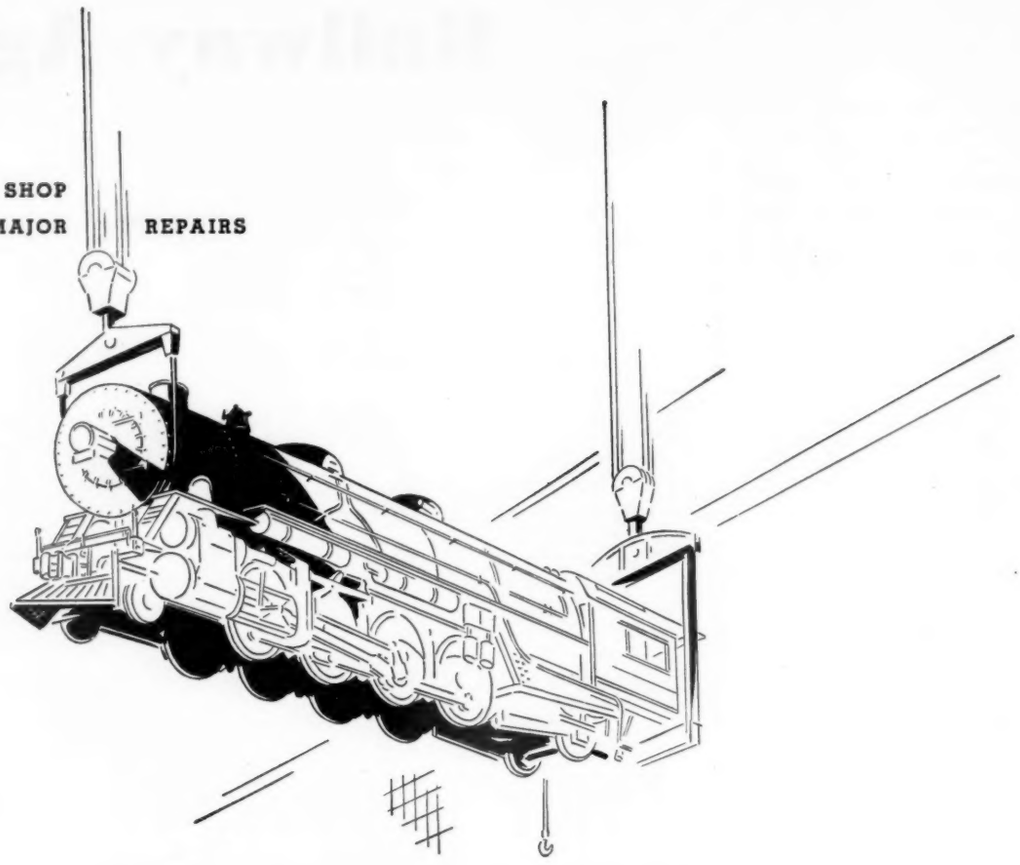
Shriners Housed in Air-Conditioned Cars 36
Communication Officers Convene 38
Private Freight Cars Serve Both Railroads and Shippers, by LeRoy Kramer 40
Discuss Materials at Detroit Meeting 43
John J. Bernet Dies; Was Head of C. & O. and Affiliated Lines 45
Freight Car Loading 45
Eighteen Railroads Selected for Inquiry 46
Superintendents Discuss Operating Problems 47

NEWS 51

REVENUES AND EXPENSES OF RAILWAYS 60

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

INTO THE BACK SHOP
FOR MAJOR REPAIRS



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How Much Recovery Has Been Made?

How little progress out of the depression actually has been made during the last two years by business in general, and by the railroads in particular, is emphasized by the facts that in May, 1935, railway net operating income was somewhat smaller than in May, 1933, and that since the middle of June car loadings have been smaller than in June, 1933. The latest month for which approximately complete statistics of railroad operating and financial results are available was April, 1935. Although April, 1933, was one of the worst months of the depression for the railways, there began in that month a sharp recovery from the effects of the banking crisis, a recovery which continued throughout the succeeding three months and culminated in July.

It happens that statistics for April, 1935, are significant because it was the first month in which pre-depression railway wages were fully restored and in which the small advance in freight rates authorized by the Interstate Commerce Commission was in effect. The statistics for April, 1929, and for April of the last three years given in an accompanying table afford some interesting comparisons showing the losses of traffic and earnings which the railways have suffered during the depression and how little they have recovered from the effects of them since Congress passed so many "recovery" measures in June, 1933.

Car Loadings and General Business

Car loadings are the best single measure of the total volume of all the business done in the country, because they are a measure of the *physical* production and distribution of all commodities. They are not distorted, as many business indexes are, by changes in price. In April, 1935, average weekly car loadings were 13.7 per cent larger than in 1933, but 42.3 per cent smaller than in 1929 and 1.4 per cent smaller than in 1934. In May they were 8.6 per cent larger than in 1933, but 44.7 per cent smaller than in 1929 and 4.7 per cent smaller than in 1934; in June, 3.7 per cent larger than in 1933, 42.3 per cent smaller than in 1929 and 1.4 per cent smaller than in 1934. Their recent trend indicates that they will be substantially smaller in July, 1935, than in July, 1934, or than in July, 1933, when culmination of the "boom" that followed the banking crisis and preceded the effectiveness of NRA was reached.

Because of the small advance in freight rates re-

Class I Railways—April, 1929, 1933, 1934, 1935

	1929	1933	1934	1935	Per cent Increase or Decrease 1935 compared with 1929	1933	1934
Average Weekly Car Loadings	997,285	506,391	583,708	575,776	−42.3	+13.7	− 1.4
Gross Earnings	$514,700,445	$224,859,043	$265,405,936	$274,651,963	−46.6	+22.1	+ 3.5
Total Operating Expenses	$377,045,331	$173,299,381	$200,203,269	*$213,058,274	−43.5	+22.9	+ 6.4
Compensation of Employees	$241,235,474	$109,012,310	$125,503,755	$137,579,387	−43.0	+26.2	+ 9.6
Number of Employees	1,665,600	939,414	1,033,319	993,565	−40.3	+ 5.8	− 3.8
Average Compensation of Employees	$144.83	$116.04	$121.46	$138.47	− 4.4	+19.3	+14.0
Hours Worked Per Employee	219	183	193	199	− 9.1	+ 8.7	+ 3.1
Average Hourly Compensation Per Employee	66.2c	63.4c	62.9c	69.5c	+ 5.0	+ 9.6	+10.5
Taxes	$33,020,062	$21,823,508	$21,383,217	$20,524,477	−37.8	− 6.0	− 4.0
Net Railway Operating Income	$94,168,377	$19,351,463	$32,433,940	*$30,895,335	−67.2	+59.7	− 4.7

*Adjusted to exclude credits resulting from Supreme Court decision on Railroad Retirement Act.

cently granted, railway gross earnings were 3.5 per cent larger in April, 1935, than in April, 1934, but they were 46.6 per cent smaller than in April, 1929. Owing to the recent advance in wages, operating expenses were 6.4 per cent larger than in April, 1934, but still 43.5 per cent smaller than in April, 1929.

Effects of Wage Restoration

The effect of the restoration of wages merits careful study by all students of recovery problems, and especially by railroad managements and employees. The average hourly wage in April, 1935, was 69.5 cents, or 10½ per cent higher than in 1934; 9.6 per cent higher than in 1933 and 5 per cent higher than in 1929. Average hours worked per employee were slightly more than in April, 1934, with the result that average monthly compensation increased from $121.46 to $138.47, or 14 per cent. The number of employees declined, however, being 39,754, or 3.8 per cent, less than in April, 1934. As has been repeatedly pointed out in these columns, under depression conditions an advance in wages unaccompanied by an increase in traffic inevitably results in a reduction of employment. In spite of the reduction in number of employees, the total amount of wages paid in April, 1935, was $12,075,632 larger than in April, 1934.

The statistics in the accompanying table are adjusted to add to the April, 1935, operating expenses certain credits by which they were nominally reduced as a result of the decision of the Supreme Court in the railroad pension case. The reports of the Interstate Commerce Commission indicate that operating expenses in April increased only about $9,000,000, but actually, owing to the wage advance, they increased almost $13,000,000, with the result that actual net operating income was smaller than in 1934.

Railway Labor and Railway Capital

The Railway Labor Executives' Association, in its resolution declaring for government ownership, implied that railway employment had been excessively reduced and the railways had failed to pay satisfactory wages because of the pressure upon managements to try to earn a return upon invested capital, and especially interest on bonded indebtedness. Let us, then, consider what the statistics in the accompanying table show regarding the way in which railway employees and railway capital are faring now as compared with the way they were faring in 1929. In 1929 railway gross earnings in April were $514,700,445; in 1934, $265,405,936; and in 1935, $274,651,963. In 1929 the compensation of employees in April was $241,235,474, or 46.9 per cent of gross earnings; in 1934, $125,503,755, or 47.3 per cent of gross earnings; in 1935, $135,579,387, or 50.1 per cent of gross earnings.

In 1929 net railway operating income available for paying interest and dividends upon capital in April was $94,168,377, or 18.3 per cent of gross earnings; in 1934, $32,433,940, or 12.2 per cent of gross earnings; in 1935, $30,895,335, or 11.3 per cent of gross earnings. The decline in compensation of employees as compared with 1929 was, in 1934, 48 per cent, and in 1935, 43 per cent. The decline in net operating income as compared with 1929 was, in 1934, 65.6 per cent, and in 1935, 67.2 per cent. The statistics show that although 672,000, or more than 40 per cent, fewer persons were employed in April, 1935, than in April, 1929, their total compensation took relatively a larger part of gross earnings in both April, 1934, and 1935 than in April, 1929. They also show that in spite of the relatively great reduction of employment, the reduction in the total compensation of labor has been relatively much smaller than the reduction in the net operating income available for paying a return upon capital.

What Railway Facts Show

Statistics make very dull reading for most persons. They are, however, the only form in which the vitally important facts regarding any business or industry, or the commerce and industry of the country as a whole, can be summarized and presented. The depression already has been greatly and unnecessarily prolonged by the failure of those who should have done most to shorten and terminate it to ascertain facts and act in accordance with the conclusions that any reasoning mind must draw from them.

The facts given in the table show clearly what is the matter with the railroads and the causes of it, and indicate with equal clarity what must be done to solve the problem they present if it is to be solved at all. The principal thing the matter with them is that their gross earnings are about 47 per cent less than in 1929, and the principal reason for this is that their freight business is 42 per cent smaller than it was then. They are a service industry which derives its freight business from the shipment of commodities produced by other industries, and their freight business cannot be largely increased without a large increase in production and shipment by other industries. Their fixed charges are a factor in their problem, but a reduction of 50 per cent in them would be equivalent to only about 11½ per cent of the difference between their gross earnings in 1929 and at present.

Another thing the facts demonstrate is the matter with the railways is that the wages they are now paying are excessive in proportion to their traffic and gross earnings. Upon what principle can anybody contend that, with their gross earnings 47 per cent less and their net operating income 67 per cent less than in 1929, they should be paying an average hourly wage 5 per cent higher than in 1929? The advances in wages made since June 30, 1934, are the principal or sole reason why the number of railway employees was almost 40,000 less in April, 1935, than in April, 1934. To the present high wage scale is also largely due the fact that the number of railway employees is over 670,000 less than in 1929. Furthermore, to the present wage scale is largely due the fact that the net railway operating income is less than one-third as large as in 1929, and that in consequence the railways are making

purchases of probably a billion dollars a year less than in 1929 and thereby contributing greatly to unemployment in the manufacturing and other industries.

An Astounding Picture

The facts regarding the railway situation and general business disclosed by railway statistics, and the further fact that almost nothing actually is being done to remedy the conditions the existence of which they indicate, make a picture that would be astounding to any rational mind that had not become accustomed to contemplating its unprecedented features. Why should supposed leaders of the people in Washington be devoting themselves to so-called "reforms" when the production and distribution of commodities are still at least 40 per cent smaller than they were in 1929? Why should they be looking for "make-work" projects upon which to spend $4,000,000,000 for the relief of the unemployed and their families when railroad properties are constantly deteriorating because approximately $2,000,000,000 or one-half as much as the gigantic "make-work" fund, a year less than in 1929, are being spent upon their improvement and maintenance and when proportionate deterioration is occurring in all the producing and distributing plants of the country for similar reasons?

The place where the depression must be attacked, if recovery is ever to be accomplished, is obvious to every sane student of economics. Recovery can be accomplished only by effectively tackling the problem of reviving production and employment in the durable goods industries. When will public men begin to attack this problem with economic instead of political weapons? When will business leaders begin to attack it with less regard for the supposed immediate interests of their own industries, and with the purpose of improving results in their own industries by reviving production and commerce as a whole?

Straight Thinking Needed on Highway Taxation

The replacement of the one tax by the other (an excise tax of 1 per cent on automobiles in Oklahoma in place of a sales tax at the same rate) is undoubtedly sensible. But it does not eliminate the underlying evil, which is that heavy taxes are levied on motorists and then the proceeds are used for general governmental purposes, instead of for the building and maintenance of highways. This kind of imposition on the motorist is practiced in every part of the United States. . . .

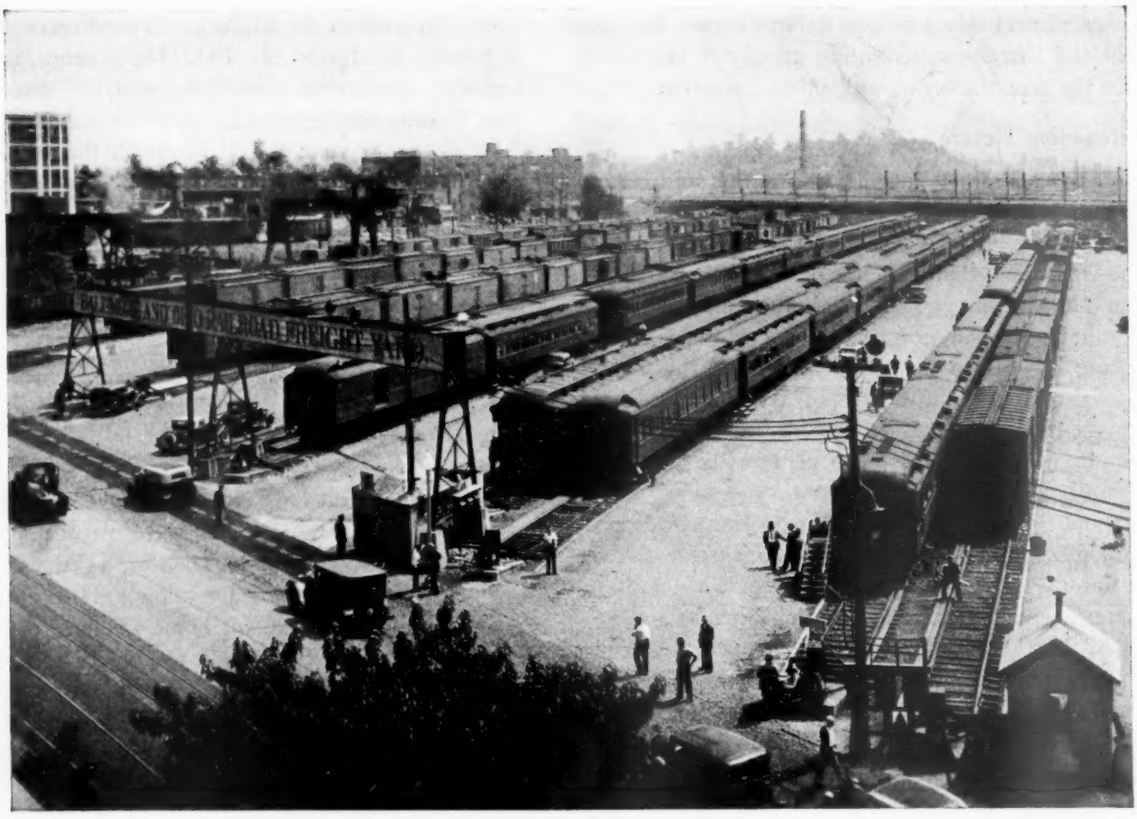
From Business Week of June 8.

In the above statement our usually alert contemporary has, we submit, fallen into error in two important respects. In the first place the facts are wrong. While it is true that some of the levies on highway users are devoted to defraying general governmental expenses, such "diversion," as it is usually labeled, is a great deal more than offset by highway expenditures made out of general tax funds. In 1932, for instance, the cost of highway construction and maintenance exceeded all special taxes on highway users by almost $600,000,000. And in the 12-year period 1921-32, the net excess of road costs over collections from road users was more than 7 billion dollars. There is no *net* diversion of special motor vehicle fees to defray the general expenses of government; rather the net diversion is in the opposite direction, from general tax funds to the highways.

Again, what if Business Week were correct in the statement that "heavy taxes" were levied on highway transportation and that "the proceeds are used for general governmental expenses"? Is there anything strange or unjust about that? Heavy taxes are levied on the publishing business and the proceeds are used for general governmental expenses, as the editors of Business Week undoubtedly know. Heavy taxes are levied on the railroads, on home owners, on farmers, and on every other form of wealth and income, and such taxes are not only used for general governmental expenses to the exclusion of any direct benefits for those who pay them, but a handsome contribution is also made from these exactions for the construction and maintenance of highways. Is there any reason why highway transportation should be the only business and why motor transport plant (fixed and rolling) should be the only form of property to be exempted from making some *net* contribution to general governmental expenses? And if such exemption is to be made—which is plainly implied in our contemporary's argument—then what is the justification for it?

When the true costs of goods or services are not reflected in the prices asked for them—which is bound to follow when tax exemption and subsidies are granted to favored forms of business and property—the productive energies of society are deflected from more productive into less productive channels, and the total income of society is thereby reduced. Moreover, taxes of all persons and businesses which do pay taxes are increased by the amount which the exempted individuals and businesses fail to pay.

In Great Britain, road costs are covered by license tag fees, and the gasoline tax which, as we recall it, is 16 cents per imperial gallon, goes entirely into the national treasury for general governmental expenses, on the theory that highway transportation like any other economic activity or form of wealth ought to bear its share of the costs of government in addition to paying its own way. When taxes on highway users in the United States cover all road costs, plus the same pro-rata contribution to general governmental expenses on the value of highway transportation investment as is levied upon other forms of property, it will be time enough to look for any "underlying evil" in these taxes. We are a long way yet from such injustice to highway users; they are still on the receiving—not the paying—end.



The Yard Is Located at Florida Avenue and Eckington Place, Convenient to Urban Transportation Facilities

Shriners Housed in Air-Conditioned Cars

Electro-mechanical equipment operated by motors placed under the cars

AT the Shriner's Convention, held in Washington, D. C., June 11-14, mechanically-cooled, air-conditioned cars were parked by the Baltimore & Ohio in its New York avenue freight yard, to provide housing facilities for some of the groups attending the convention. Since circumstances in Washington frequently overload hotels, it was decided to make the equipment used for servicing these cars of semi-permanent character. The service is designed for groups of people who wish the assurance of a place to stay at times when the obtaining of hotel accommodations is difficult. It provides also for associations remaining in groups, and facilitates their assembling for meetings, parades, etc.

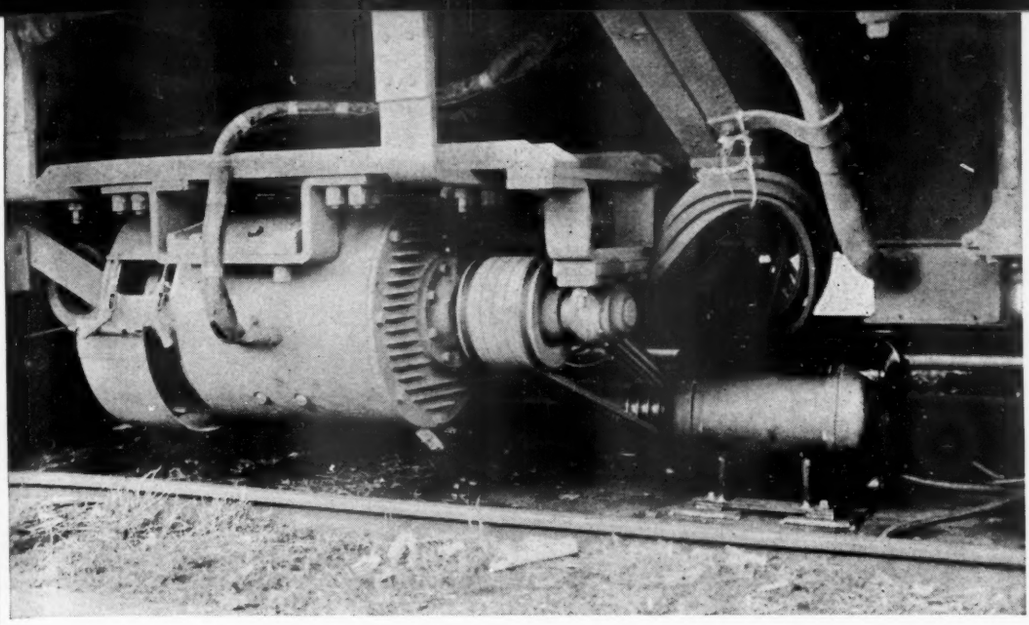
Among the air-conditioned cars parked in the yard were included dining cars for the service of those living in the cars.

There were also bath cars, respectively, for men and women, providing hot and cold showers. One steam locomotive was used to supply compressed air and steam to all of the cars.

Electric motors, supplied from an outside power source, were used to drive the electric generators on the cars and to furnish power for the operation of air conditioning compressors and blowers, charging batteries and lighting.

The equipment necessary to supply power to the generators consists of six 100-kva. transformers, placed on the ground in an enclosure at one end of the yard, a service switch, metering equipment, six distribution or circuit switches, one 10-hp. motor and motor starter for each car, and the necessary cable, most of which is run in wood trunking nailed along the ends of the ties.

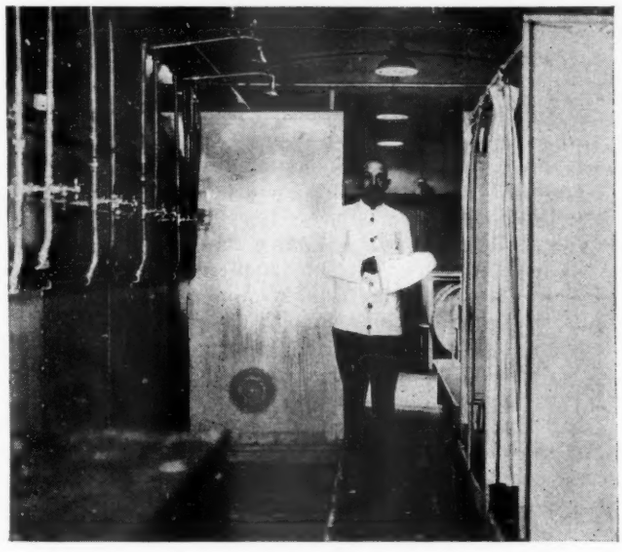
An unusual form of contract between the Baltimore & Ohio and the Potomac Electric Power Company provided for the motors and the power service. Distribution switches, wiring and motor starters were furnished by the railroad. The transformers were placed by the power company, but all other labor, including wiring and the placing of motors, was supplied by the railroad. Up to the present, the facilities have been



Electric Motor Drive for Air Conditioning Generator—This Arrangement Causes No Appreciable Vibration or Noise Inside the Car

used for two conventions, and the transformers, circuit switches and wiring have been allowed to remain in place.

The motors are mounted on ¼-in. steel plates, 2 ft. wide by 5 ft. long. Two smaller plates, measuring 6 in. by 18 in. by ⅜ in., placed under the motor feet, are



Interior of Shower Car

tack welded to the larger plate. The motors are then secured to the base by cap screws. There are a large number of holes near the edges of the large plate. When the motor is delivered it is skidded over the rail, to a point below and at one side of the air-conditioning generator on the car. The V-belts, which normally drive the generator from the axle drive, are removed and a second set, consisting of four ¾-in. V-belts, is used to connect the motor to the generator. When the motor is in place, the base is spiked to the ties and the belt-tension device on the car used to tighten the belts. A crew of four men is used to place the motor, and two men remain to aline pulleys, put on belts and make the necessary electrical connections. The time required to install a motor is about 40 min. Night lighting for the spaces between the cars is supplied by six 1,000-

A Locomotive Was Used to Supply Steam and Compressed Air —Planking Was Used to Protect Pipes Crossing the Space Between Tracks

watt flood-lighting units, placed at intervals along one end of the yard and at a height of about 35 feet.

Charges made against the traffic department for the parked cars are the Pullman rental plus a service charge, as follows:

Traffic (Switching, etc.)	$ 3.60
Heat, light, water, laundry, cleaning, etc.	8.40
Air conditioning	8.00
Total charges per car per day	$20.00

Service is rendered to the users of the cars at cost. No attempt is made to secure a profit from the operation, the service being rendered for the purpose of developing passenger traffic. It is felt by the management that such facilities may at times make it possible for a city to obtain a convention which might otherwise have to go elsewhere.

The contract and installation of equipment were engineered by J. H. Davis, chief engineer electric traction, whose development work in air conditioning as applied to railroad passenger cars, in 1929 and 1930, precipitated the present activity in this field.

Attendants at Seventeenth Annual Convention of Telegra

Communication Officers Convene

Annual Meeting of Telegraph and Telephone Section of A.A.R. held in Chicago

CONSIDERATION and discussion of committee reports and of four technical papers occupied the attention of railroad communication men at the seventeenth annual convention of the Telegraph and Telephone section of the Association of American Railroads. Sessions were held at the Stevens Hotel, Chicago, on June 25, 26 and 27, under the leadership of A. W. Flanagan, superintendent of telephone and telegraph of the Southern Pacific. An attendance of 189 members and 97 visitors was recorded.

In opening the convention Mr. Flanagan reviewed the progress of the Section in keeping railroad communication systems abreast of the times. On Thursday, T. Burnett, of the Pacific Fruit Express, spoke on perishable freight movement, emphasizing the close relationship existing between the railroads and the marketing of perishables, and pointing out the importance to this movement of reliable railroad communication service.

Technical papers were presented before the assembly on the Development and Improvement in the Telegraphic Art, by H. W. Drake and Hobart Mason of the Western Union Telegraph Company; Some Improvements in Toll Circuit Design and Transmission, by Glen Ireland of the American Telephone & Telegraph Company; The Application of Printer Selector Equipment to Railroad Teletype Lines, by J. A. Miller and M. E. Griffin of the Automatic Electric Company; and Improved Types of Transmission Measuring Systems and Methods of Measurement, by W. H. Harden of the American Telephone & Telegraph Company. Acknowledgment was made of the valuable work that has been performed by the committees during the year, as well as of the contributions of those presenting the papers.

Work of Committees and Economies Effected

All of the 14 active committees of the Section presented reports on the results and the status of their work, including recommended practices and specifications. Certain phases of these reports are cited briefly here.

The Committee on Construction and Maintenance—Outside Plant, through one of its subcommittees, presented an exhibit of information compiled in tabular form indicating the number of treated and untreated telegraph poles of various kinds of wood treated or purchased during 1934. This compilation includes reports from five large railroad systems and three commercial telephone and telegraph companies. A second exhibit comprised a service record of wood poles under test during 1934 and previously, the tests having been conducted by several large railroad and communication companies.

The Committee on Construction and Maintenance—Inside Plant, introduced a series of exhibits covering the installation and maintenance of the various types of power-supply units applicable to communication service. Another exhibit comprised a general description of printing telegraph apparatus and its application to railroad service. The work of the two committees on construction and maintenance consisted, in general, in the preparation of specifications covering the practices approved by the organization.

The Committee on Economics introduced a table compiled from reports submitted by a number of railroads in reply to a questionnaire relative to the economies effected by the improvement of communication services over a period of years. The economies effected as a result of simplexing, compositing and phantoming existing telephone circuits instead of running new lines were pointed out. On the roads reporting, the total number of new circuits derived by these means from January 1, 1927, to January 1, 1934, was 381, involving 39,405 miles of additional circuits. The economy resulting from these operations, based on the approximate cost of providing equivalent facilities with new circuits, aggregated $2,574,735.

A table listing the economies effected in the handling of message traffic in 1933, as compared with a previous check of 1926 operations, indicates that substantial reductions in the average cost per office per message have been effected, in spite of a 42.5 per cent reduction in the total number of messages handled by those roads reporting. In this period the average cost per message has been reduced from $0.0357 to $0.0249. The resultant

nd Telephone Section, A. A. R., in Chicago, on June 27

saving on the basis of the 1933 volume aggregates $657,-883, whereas on the basis of the 1926 volume at the 1933 rate the decrease in total cost of messages on these roads would have amounted to $1,250,700. During this same period, the unit cost of handling messages by telegraph-printers has been reduced from $0.0192, four roads reporting for 1926, to $0.0144, seven roads reporting for 1933; the volume of business handled by this means increased by nearly 80 per cent.

The Committee on New Devices and Material submitted in its report descriptions of the latest developments in new equipment of special interest to railway communication officers. The work of this committee was supplemented by exhibits of outstanding developments in communication apparatus, provided by certain supply companies.

The Committee on Message Traffic submitted exhibits covering recommended practice for telephone directory listings, as well as private-branch-exchange operating practice and instructions. An important part of the report comprised a plan for scheduled intermittent working of communication circuits. This plan is designed for use in the not unusual instance where, in railroad communication systems, one or more general offices work with several other offices and the traffic load with each office is too small to justify continuous working. Such a system has been in successful operation on the Erie and other roads.

The plan contemplates the intermittent working of certain offices with certain other offices on a definite schedule. The schedule prescribes the time at which two offices shall begin working with each other, the maximum time to be used for each working period, and the circuit to be used. The purpose of the plan is to provide an orderly system of working which will eliminate the waste of operator and circuit time in "calling" and to equalize, so far as practicable, the speed of service among all of the offices involved.

The Committee on Inductive Interference submitted a discussion of the fundamental factors involved in inductive co-ordination of communication lines and remedial measures applicable under various conditions. This illustrated report is designed to be non-mathematical and an overall generally-descriptive picture of the interference conditions, rather than giving complete technical information.

The report of the Committee on Radio and Wire-Carrier Systems included a statement of the results of recent experimental work and demonstrations of radio-telephone apparatus for use between the locomotive and caboose of freight trains, whereby members of the train crew have access to continuous two-way communication. The committee is following the developments of the General Electric Company, the Westinghouse Electric & Manufacturing Company, and the Union Switch & Signal Company in this field.

Demonstrations of the Westinghouse equipment were made during October and November, 1934, on territory near New Haven, Conn., to determine the effect of the 11,000-volt overhead propulsion electrification on the short-wave radio reception. The effects of the winding route and hilly country, towns and bridges were also carefully observed. Satisfactory communication was carried on throughout the electrified territory with only a slight increase in "background noise." During the demonstration, which was witnessed by railroad and manufacturing company representatives, the apparatus performed as intended with only two notable exceptions. While in territory adjacent to a commercial power station, some difficulty of reception was experienced. On other occasions when either the locomotive or the caboose was directly under a wide steel bridge structure a lapse in the reception would sometimes occur, apparently as a result of the shielding effect of the steel structure overhead.

A preliminary report was made concerning the use of ultra short-wave radio apparatus for point-to-point telephone communication over comparatively short distances in lieu of direct-wire connections. An outline of the advantages and disadvantages of such a system in its present state of development was submitted. A discussion of representative commercial applications, which are now in service in this country, as well as in England, was including in the report. The committee proposes to consider the system from the standpoint of its possible use to the railroads in its future study.

The committee rendered a report on the status of carrier-current telephone and telegraph systems, which have been developed to provide a large number of communication channels superimposed on a small number of line circuits between major terminal points. A general description of existing types, of which four are listed, was included in the report. Suggestions designed to be of assistance in considering the application of carrier-current systems to railroad service were also included, together with a technical bibliography. It was pointed out that carrier-current systems can be adapted to a variety of operating conditions and that they offer promising possibilities where increased railroad communication facilities may be required.

As a part of the report, the committee presented a

(*Continued on page 44*)

Private Freight Cars Serve Both Railroads and Shippers*

Uneconomic for railroads to own, maintain and distribute the many different types of cars needed to meet modern service requirements

By Le Roy Kramer

Vice-President, General American Transportation Corporation, Chicago

IT may be asked in what way private car companies are helpful to the railroads, and I trust you will pardon references to the companies which I represent, because it is necessary to speak from first-hand knowledge, although to a greater or less extent the same situation exists where other private car companies are involved.

It needs no imagination for you to arrive at the conclusion that the existing private cars were created to fill a need. This need is service to the shippers. Most private car companies provide the type of equipment that is not generally furnished by the railroads, although the products in them are being shipped daily.

If there is any one phase of the situation that deserves commendation from the railroads as well as the shipping public, it is the fact that the private car companies have shown a constant spirit of advanced design, experimentation, and diversified use of their cars. Without any reflection whatever on the splendid work done by railroad men, it is a well-known fact that most of the progress made in design and improved devices has been developed either by private car owners, car builders, or equipment companies. Naturally, the railroads have profited by obtaining the use of such improvements without the burden of trial, error and expense that goes with every new creation.

Investment in Special Types of Cars Minimized

And from a financial standpoint, many railroads have profited greatly by not being required to invest huge sums in special types of cars, or at least have not needed to provide more than a normal supply for their local requirements, knowing well that they can obtain extra cars from the private car companies. And for these cars the railroads pay only a nominal mileage rate when cars are moving.

Beginning with tank cars, our company checked up one year's operation and found that there were 110 different commodities handled in tank cars. To take care of these commodities, we furnished 65 types of cars. These include plain and insulated tanks of various sizes; plain and insulated compartment tanks of various sizes and number of compartments; tanks with steam coils ranging from 4 to 20 coils per tank; insulated cars with and without coils; special acid cars with linings of lead, rubber or nickel; aluminum cars, and high-pressure tanks with walls as thick as 1⅛ in., forge-welded into a one-piece container and built under very rigid specifications. All these types serve a definite public need.

Manifestly, it would be an absurdity to expect the railroads individually to attempt to provide, maintain and distribute this large variety of equipment.

Many Varieties of Refrigerator Car Lading

For refrigerator cars there are even more varieties of lading, covering numerous fruits and vegetables, meat and their products, butter, eggs, cheese, canned goods, bottled goods, extracts, etc., all of which need protection from heat or cold or both. Many of these commodities require special cars or special equipment. The long-haul fruits and vegetables are best served with large bunkers; the short-haul commodities with small bunkers. Certain commodities necessitate a minimum width, and others can be loaded in any car. Counting differences in sizes, bunkers and equipment, there are today approximately fifteen varieties of refrigerator cars.

In stock cars, the variety is much less, but there are long and short stock cars, and single and double-deck cars, some equipped with watering troughs.

In all of the above equipment, the movements of most of the commodities are seasonal. For instance, more gasoline moves in summer than in winter, and vegetable crops have essentially a spring and summer season. In addition, these latter crops are widely spread as to growing territories.

Treatment of Private Cars in Repair Yards

It is at this point where you men engaged in railroad car maintenance can be of tremendous assistance, not alone to the private car company, but to the railroads as a whole, and especially to their shippers who use the equipment. In some instances, there has been a feeling in car-repair yards when they are pressed for time, or are endeavoring to keep down their expense that they should give preference to so-called railroad cars; that is, cars bearing the ownership marks of a railroad. Some have felt that because there is a private car in the yard it need not be given preferred attention. But bear in mind, this private car is really to serve a shipper from whom the railroads derive revenue, and whether loaded or empty, a private car should be given the same consideration that is extended to a freight car of railroad ownership.

What repair man knows how badly an empty private car may be needed to supply a demand that may be several hundred or thousand miles away? Generally speaking, the private refrigerator car is an important contribution to general railroad service to protect the type of shipment that all railroads are anxious to secure, for which they need to furnish the car promptly, and

* Abstract of a paper presented before the Chicago Car Foreman's Association.

wish to handle through to destination on fast and dependable schedules to provide the best protective service, both winter and summer.

Refrigerator Cars Produce 2,000,000 Loads a Year

Visualize if you can the important perishable traffic that produces more than 2,000,000 carloads of products a year for the railroads. That is the reason for the refrigerator car.

To a somewhat lesser extent, under normal business conditions, the tank car needs the same careful attention to protect the widespread loading, not only of petroleum products, but of all other forms of liquid commodities which are such an essential part of our everyday life. Few important industries today could operate without tank cars. Some of the major industries, outside of the petroleum field, are the chemical industries; soap manufacturers using greases and oils; the food industry for molasses, glucose and corn syrup; the salad oil and cooking fat industry for olive oil, cottonseed oil, sunflower oil, and even whale oil; the paint industry for linseed, China wood, turpentine and similar oils; the rayon industry for glacial acetic acid; and even the steel industry, one of whose by-products is benzol. Many other commodities also require tank cars. But even with these few listed, considering the widespread points of production, it is not conceivable that railroads could as economically furnish the large varieties of types of cars and equal the efficient handling being given today.

Doubtless some of you are saying that if the railroads could pool all of this equipment they would get better results. In fact, car pooling is a live subject today, and it is with no disrespect to those championing that cause when a word of caution is given that such a subject should receive most careful and thorough consideration. It is my individual belief that one of the major faults of the present condition of things has been too much centralization. In my short span of life, I have seen too many businesses grow too big, with the result that they have become unwieldy and have failed to produce the economies which were claimed for them. In fact, some railroads have become so large that the public, and even the employees, seldom hope of having constructive ideas ever reach the somewhat nebulous authority who may be empowered to approve or disapprove.

No thinking man today can help but believe that there is too much centralization in our Government. This statement is not made from a partisan standpoint but from a practical one. In the passing of only a few years, Government activities have spread from normal supervision of national affairs until today there is not a single business—industrial, financial, mining or agricultural—that is not controlled from Washington. Surely this has not improved those businesses. It has restricted them. And none has suffered to an almost unbearable point as have the railroads.

Many Private Cars Exceed A.A.R. Requirements

The existence of private cars on railroads is so customary that few ever look behind the scenes to learn what is going on. To begin with, every private car company which creates its own equipment is vitally interested in the welfare of the railroads it serves as well as its own welfare. Working closely to standards laid down by the Association of American Railroads, the development of its cars always equals and many times exceeds the minimum requirements. The cars designed are usually for specific purposes and frequently these purposes are not even comprehended by railroads because they are so different from the normal railroad equipment. The cars are designed with due regard to strength, dimensions, minimum weight, and especially for decreasing the cost of maintenance.

After the cars are constructed, they are then turned over to the operating departments. In these departments, an experienced staff is maintained to look after the solicitation for the use of the cars and the distribution thereof. Complete records are established to keep track of movements and the condition of cars, as well as the costs of operating and maintaining them. In addition to the central offices, there are branch representatives in the field of greatest activity for the use of cars. These men are carefully trained for their work, have frequent contacts with railroad men as well as shippers, keep in touch with production or prospects, and arrange for the proper allocation, movement, and in many cases loading of the various commodities, as well as encourage the shippers in every way possible to confine their shipments to the rails. This work has been of great benefit in the recent years of highway competition, and the efforts of the private car representatives co-operating with the railroads to show how best to load, route and handle shipments have resulted in retaining traffic to the rails that might have gone elsewhere.

How Private Cars Are Maintained

Supplementing the efforts of the operating departments, there is built up an adequate maintenance department. These men are charged with the repair of cars, and for this purpose branch shops are located at strategic points where repair work can be done with the least empty haul and to give the best service in the surrounding territory. Such shops are well equipped for repairing the various types of cars and manned by specialists in their trades. In so far as this company is concerned, there is a close line of demarcation in the handling of repairs to tank and refrigerator cars. Not only are there separate foremen, but separate forces are assigned to the two different types because our experience has demonstrated that more economical and efficient workmanship is done by those skilled for either steel or wood work, and it is rare that the same force of men could do work on both types of cars with equally good results.

In the general office, mechanical records are kept of the cost of repairs by individual car numbers, and no small part of the work is the checking, certifying and paying of railroad repair bills. As private car operators, we know that you men are doing your part in endeavoring to repair satisfactorily and accurately account for the cost thereof. This we appreciate very much, and in return we are trying to do our part in not being too critical, but if we question any charges it is only to settle a doubt that may exist in our minds.

The situation with respect to disputed repair charges has improved so greatly that it is a pleasure to make this grateful acknowledgement of the helpfulness which you men have exhibited in bringing about a better understanding of this bothersome question.

Liquid Shipments Present Complicated Problem

The problem of distributing liquid products is quite complicated and is almost entirely handled in privately owned tank cars. It requires much systematic analysis of the needs for the various commodities,—providing cars clean or dirty, of proper size, plain or insulated as may be required, and arranging for the loading and movement of millions of cars annually, all of which earns revenue for the railroads as well as ourselves.

In this field the normal movements are somewhat orderly. That is, the refiner, the alcohol producer, chemical manufacturer, etc., have fairly definite productions and reasonably regular movements. Only in times of

unusual development of crude oil fields are the railroads and tank-car companies pressed to their limit.

There may be many empty tank cars standing idle at various times, but let one big oil field develop and the surplus disappears almost like magic. Were it not for this reservoir of reserve tank-car capacity, much of the early production of oil fields would be lost on the ground, or of necessity be piped away without benefit to the railroads.

Moving Seasonal Crops

In the movement of perishable freight, and especially those seasonal crops, there is again great activity in the various localities where certain fruits and vegetables are produced. During the transportation, as well as the preparation, these commodities are given the most careful attention and are nursed along, being cooled if the weather is hot or being heated if it is cold, carefully inspected when loaded and unloaded, and delivered to destination in excellent condition.

At re-icing stations, there are examples of the most efficient organizations. Generally an average of one minute per car is allowed for re-icing, but the average is less than that, and on some occasions trains consisting of 75 or 80 cars have been re-iced in from 20 to 25 minutes.

Here again the private car operators prove helpful to the railroads. They have surveyed the field in advance of movement to determine the car supply needed. They are in attendance during the shipping season, helping the shipper and watching the condition of the cars as well as the supply.

Railroads Provide Highly Efficient Service

The railroads deserve much credit for the service they render. After moving the empties to the field, they provide outbound train service; they allow the shipper the change of destination of cars in transit as practically all seasonal fruits and vegetables are billed originally to some point with the intention of reconsigning one or more times while in transit. This reconsignment is to divert the product from a flooded market to one where the demand is better or higher prices prevail. In looking after this reconsignment, the railroads do not hesitate to use telegraph, long distance telephone, or even special messenger service which is furnished free to their shippers and is an example of the excellent service given to the public.

So efficient and so routine has this huge task become that the consumer living in the more populous districts takes for granted the fresh fruits and vegetables that will be available every day in the year. He cannot realize what a tremendous organization is required and what effort expended by thousands of railroad and private car employees to the huge task of furnishing the American family with its cantaloupes, oranges, berries, vegetables, butter, eggs, cheese, and meats of high quality which are eaten daily and seldom even occasion a remark as to the fine quality provided for its consumption.

To indicate how important some of these products may be, the records show that the tonnage of fluid and processed milk handled on railroads exceeds the tonnage out of all the steel plants in the United States. Incidentally, one of the types of equipment which this company has deveoped is a glass lined bulk milk car, the use of which has returned to the railroads thousands of tons of milk annually that was being hauled by trucks. The production of evaporated and condensed milk alone runs over 1,500,000,000 pounds a year.

Governmental reports from several hundred creameries show an annual production of over 1,500,000,000 pounds of butter. There is shipped in annually by rail to the cities of New York, Chicago, Boston and Philadelphia over 6,500,000 cases of 30 dozen eggs per case. The carload movements of dressed poultry to the four cities mentioned total between 900,000 and 1,000,000 lb. annually. From the standpoint of volume in the vegetable and fruit field, potatoes come first; apples rank second; and citrus fruits rank third. Had it not been for the development of the refrigerator car, much of the prosperity of Florida, Louisiana, the Gulf Coast country of Texas, and the West Coast would have been lacking.

In the final analysis, there is hardly a state that does not contribute one or more important commodities for the daily consumption of our population. Bear in mind that over 95 per cent of the refrigerator traffic of this country moves from the south, southwest and west to the northeastern section of the country, which is the large consuming area. Necessarily, this means that the loaded movement is practically all in one direction, but to supply the producing territories it is equally essential that the empties be returned prompty. Otherwise, there would be a shortage of equipment when needed for returning loads.

Railroads Depend Upon Private Car Companies

All of these seasonal movements, to say nothing of the year-round shipments of other products, constantly require careful planning to handle the traffic, and, with very few exceptions, the railroads depend upon either private car companies, or similar companies which several railroads have organized for economy's sake, to look after these shipments. This is a recognition of the principle of a diversified use of equipment to meet seasonal needs in widely scattered territories. And here the private car company, through its ownership, can and does serve those railroads which may not desire to assume the burden of ownership of cars and their maintenance.

There is no mystery in operation of private cars. If they have seemed to be encroaching upon railroad car operations, there is a perfectly good reason for it.

The fact remains, however, that private cars have always existed on railroads. The mileage rates paid for their use have always been made by the railroads after study of the cost of ownership. Today that mileage rate buys more comparatively than any other commodity purchased by a railroad. Even under existing depression conditions, railroads could not handle present traffic without the help of private cars. A low estimate of depreciated value of private cars, not including railroad-controlled private companies, is well over $200,000,000 exclusive of shops and other property. No such an important industry could have grown or continued to exist unless based on sound economic principles and the realization that, taking everything into consideration, the service they perform is the cheapest for the railroads.

If, in performing such service and aided by income not derived from the railroads, a private car company has had a reasonable profit, should it be condemned? I only hope that the Government agencies and shippers will recognize the need of a profit flowing to the railroads for their efforts. And every employee of a private car company constantly works toward a realization of this hope. We want to be helpful, and I am speaking for all private car companies. Should you know of ways in which we are not doing our part, tell us frankly and see how quickly and gladly we will respond. You are our best customer. We want to please you and merit your good will.

Discuss Materials at Detroit Meeting

American Society for Testing Materials holds thirty-eighth annual convention with more than 1,000 in attendance

WITH 15 sessions, a "round-table" discussion and an annual dinner meeting crowded into four days for the purpose of providing time for the presentation of 58 papers, 48 committee reports, 7 addresses and 1 lecture, the American Society for Testing Materials offered a varied intellectual diet and a busy time for more than 1,000 members and visitors who attended its thirty-eighth annual convention at the Book-Cadillac hotel at Detroit, Mich., on June 24-28. The convention schedule called for two concurrent sessions on three mornings, one afternoon and one evening. However, inasmuch as the printed program listed 158 committee meetings to be held throughout all four days, there were many times when deliberations were being conducted simultaneously on behalf of the association in as many as six different meeting rooms.

President von Schrenk Addresses Meeting

The scope of the association's activities and of the problems presented by reason of the growing tendency toward specialization were outlined by Dr. Hermann von Schrenk, president of the A.S.T.M. and consulting timber engineer, St. Louis, Mo., in his address at the opening session.

"We now have 306 standard and 135 tentative specifications," he said, "also 168 standard and 93 tentative methods, as well as 29 lists of definitions. There are 53 standing committees, 6 research and 17 sectional committees, or a total of 76 committees.

"Of necessity, the work of our committees is becoming more complex and more intensively specialized. At the beginning all members of a committee dealt with all problems, largely because they were able to grasp the significance of the various questions presented and to treat them with understanding. As the years have gone on, information and knowledge have become more and more special so that often members of the same committee do not understand each other. This, of course, is in line with all advancement in knowledge, but it leads to this suggestion that the time has come when we should pause occasionally and attempt a tying together of the very divergent results of our investigations. The symposium idea has always appealed to me because it brings people of different lines of thinking together and, on such an occasion, they can explain what they have done and what they expect to do."

Referring to progress made in co-operation with other organizations, he reported that as the result of a meeting of Committee E-10 on Standards with the Standards committee of the American Railway Engineering Association, it is expected that official representatives of the A.R.E.A. will be delegated to serve on various committees of the A. S. T. M.

Other Addresses

An appeal for a consideration of the broader aspects of specification writing was made in the address of C. F. Hirshfield, chief of the research department of the Detroit Edison Company, on the relationship of Specifications to the Engineering Profession. Specifications should be specific, he said, but directed attention to some of the obstacles confronting efforts to fulfill that requisite. The chief difficulty, he added, was a lack of definite knowledge. There is still too general a lack of appreciation of the real significance of what we call a specification; there is still too great a gap between our present knowledge and that which would be required for the preparation of ideal specifications. A better organization of research projects rather than the present inclination to depend on the voluntary efforts of the lone experimentor was the primary need, in his opinion.

By no means of secondary interest was an exhibit of testing apparatus and related equipment presented by 34 instrument makers and others. A noteworthy departure from the usual "supply" exhibit was the fact that several booths were occupied by some of the society's own committees for the purpose of demonstrating various phases of their work. Displays by a number of research laboratories, including those of the University of Michigan and Michigan State College were also included.

Technical Program

The programs of the various sessions were occupied by the presentation of the reports of the various standing committees and papers on related subjects, individual sessions being devoted to groups of allied materials for the convenience of members having specialized interests. In addition, one session was set aside for the consideration of problems of research and testing, and another to a discussion of the significance of yield point of metals in design and specifications. Following are brief reports on the action taken with respect to the recommendations of committees dealing with materials more commonly used by the railways.

Affirmative action taken by the association on the report of Committee A-1 on Steel included the following:

Specifications for publication as tentative standards

Specifications for Axle Steel Concrete Reinforcement Bars

Proposed revisions of standard specifications

Specifications for Open-Hearth Carbon-Steel Rails (A 1-30)

Specifications for Quenched High-Carbon-Steel Splice Bars (A 49-21)

Specifications for Carbon-Steel Bars for Railway Springs with Special Silicon Requirements (A 68-27)

Specifications for Lap-Welded and Seamless Steel and Lap-Welded Iron Boiler Tubes (A 83-34)

Specifications for Commercial Quality Hot-Rolled Bar Steels (A 107-33)

Specifications for Commercial Cold-Finished Bar Steels and Cold-Finished Shafting (A 108-33)

The adoption of tentative revisions of standard specifications

Specifications for Billet-Steel Concrete Reinforcement Bars (A 15-33)

Specifications for Rail-Steel Concrete Reinforcement Bars (A 16-33)

The withdrawal of tentative standards

Specifications for Carbon-Steel Castings for Industrial, Railroad and Marine Uses (A 154-33 T).

The revision of the Specifications for Open-Hearth Carbon-Steel Rails, listed above, embraces the addition of a diagram showing the locations in the cross-section of the rail from which samples for chemical analysis shall be taken, and changes and additions relative to the method and apparatus used in making the drop test.

Following the withdrawal of the Tentative Specifica-

tions for Carbon Steel Castings, the subcommittee concerned was instructed to prepare new tentative specifications which will be submitted to letter ballot during the summer. These are to cover different classes of steel castings separately, including both carbon steel and alloy steel castings for railroad use, the Mechanical division of the A.A.R. having already prepared specifications presenting the same physical properties as those of the A. S. T. M. tentative specifications that have been withdrawn. Similarly, as a result of a conference with the A.R.E.A. Committee on Track and a committee representing the nut, bolt, and rivet manufacturers, arrangements have been made to make certain revisions in the A.S.T.M. Standard Specifications for Track Bolts and for their publication as tentative revisions upon affirmative action by letter ballot.

Committee A-2 on Wrought Iron was accorded affirmative action on all its proposals as follows:

Proposed tentative standards

Specifications for Uncoated Wrought-Iron Sheets
Specifications for Zinc-Coated (Galvanized) Wrought-Iron Sheets

Proposed revisions of tentative standards

Specifications for Wrought-Iron Plates (A 42-34 T)
Specifications for Wrought-Iron Rivets and Rivet Rounds (A 152-33 T)

Proposed revisions of standards

Specifications for Common Iron Bars (A 85-27)
Specifications for Refined Wrought-Iron Bars (A 41-30)
Specifications for Staybolt, Engine-Bolt and Other High-Grade Wrought-Iron Bars (A 84-33)
Specifications for Wrought-Iron Rolled or Forged Blooms and Forgings for Locomotives and Cars (A 73-30)
Specifications for Hollow Rolled Staybolt Iron (A 86-30)
Specifications for Lap-Welded and Seamless Steel and Lap-Welded Iron Boiler Tubes (A 83-34)

Adoption of tentative revisions of a standard as standard

Specifications for Hollow Rolled Staybolt Iron (A 86-30)

Affirmative action was taken on the recommendation of Committee A-3 on Cast Iron that certain revisions be made in tentative specifications for Gray-Iron Castings (A-4832T) and for Cast-Iron Culvert Pipe (A-142-34T) and that they be continued as standard. The publication as tentative standards of specifications for four grades of chromium steel castings (Committee A-10) was authorized.

Tentative standard specifications for creosote (D 390-34T) and for creosote coal-tar solution (D 391-34 T) were advanced to standard on the recommendation of Committee D-7 on Timber. These specifications conform with those adopted by the American Railway Engineering Association and the American Wood-Preservers' Association. Proposed revisions of the Tentative Standard Specifications for Timber Piles (D 25-30 T) were also approved.

Committee A-5 on Corrosion of Iron and Steel reported progress in its exposure tests, and its recommendations covering various specifications for coating processes were approved. Similar action was taken with respect to some 18 items of specifications and methods of testing of various paints and varnishes submitted by Committee D-1 on Preservative Coatings for Structural Materials.

Corrosion of Air Conditioning Equipment

One of the newer problems of corrosion was discussed in a paper by C. M. Sterne, chief engineer, Metropolitan Refining Company, N. Y., that reviewed an investigation of corrosive action in air-conditioning equipment. Examinations of metal plates exposed in recirculating water treated with various reagents led to the conclusion that the sodium dichromate treatment affords the best protection of any of the chemicals tested. A report on the considerations to be taken into account in the standardization of methods for sampling water for industrial use was presented as information. Standard methods will be developed later.

Proposed revisions of standard and tentative standard specifications for various asphalt roofing and shingles, for asphalts used in built-up roofs and for cotton fabric for use in waterproofing were withdrawn for further study.

Cement and Concrete

The most important proposal of Committee C-I on cement was the adoption as standard of the Tentative Specifications for High-Early Strength Portland Cement with but one revision—the deletion of the fineness requirements. However, considerable opposition was disclosed in the discussion from the floor, ostensibly on the ground that the association's definition of portland cement, adopted years ago, was obsolete and especially inaccurate as applied to high-early-strength portland cements. It was also brought out that several members of the committee were of the opinion that no action should be taken until certain investigations now in progress are completed. The committee's proposal received a majority but failed on the necessary two-thirds vote.

The committee expressed the hope that specifications for high-early-strength cements comprising mixtures of portland cement and small quantities of other materials would soon be available. It also reported progress in its studies on low-heat and blended cements, on volume changes and soundness, and on plasticity, and recommended that the tentative standard methods of chemical analysis and of tests of fineness of portland cement be continued in their present status.

Affirmative action was taken on the recommendation of Committee C-9 on Concrete and Concrete Aggregate that the Tentative Standard Specifications for Ready Mixed Concrete be adopted as standard with certain revisions. Three methods of test were approved for publication as tentative standards, and revisions of two tentative methods of test and one standard method of test were authorized.

Committee C-13 on Concrete Pipe reported a revision and simplification of the Tentative Specifications for Reinforced Concrete Culvert Pipe, and its proposal that these specifications as revised be continued as tentative was approved. Other work of this committee as reported at the convention related to irrigation pipe and to sewer pipe.

Communication Officers Convene

(*Continued from page 39*)

new specification for the installation, operation and maintenance of radio broadcast receiving equipment on passenger trains. Such items as receiving sets, power supply, antenna systems, interference and maintenance were treated and illustrated with drawings of circuits and installation schemes.

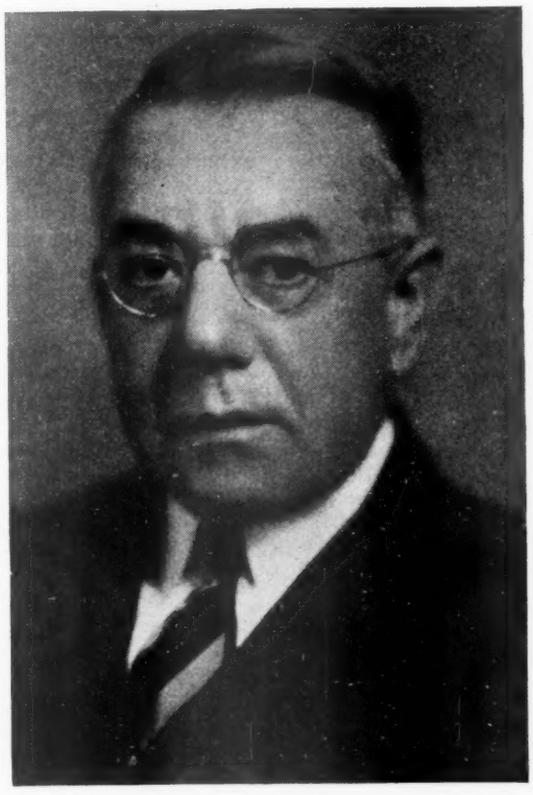
At the close of the convention, the election of officers for the ensuing year was announced as follows: Chairman, H. C. Chase, superintendent of telegraph, Atchison, Topeka & Santa Fe; first vice-chairman, W. A. Jackson, superintendent of telegraph, New York Central; and second vice-chairman, D. E. Galloway, assistant to vice-president, telegraph department, Canadian National. W. A. Fairbanks continues as secretary of the Section.

John J. Bernet Dies; Was Head of C. & O. and Affiliated Lines

Formerly a New York Central man, he had occupied key positions in Van Sweringen organization for 20 years

JOHN J. BERNET, president of the Chesapeake & Ohio, the New York, Chicago & St. Louis and the Pere Marquette — Van Sweringen lines—died on July 5 at his home in Shaker Heights, a suburb of Cleveland, Ohio. He had been critically ill for two weeks, following a general breakdown.

Widely known for his ability as a railroad operator, particularly in connection with the rehabilitation of weak systems, Mr. Bernet had for nearly 20 years occupied key posts in the Van Sweringen organization. The son of a blacksmith, he spent the first 27 years of his railroad career with the New York Central Lines and a constituent line, the Lake Shore & Michigan Southern, rising from telegrapher to vice-president through the customary line of promotions in the operating department.



John J. Bernet

Mr. Bernet first became associated with the Van Sweringens in 1916. In that year the two brothers had undertaken their first venture in the steam railroad field by acquiring the Nickel Plate (New York, Chicago & St. Louis) from the New York Central, and had asked the late A. H. Smith, then president of the latter line, to recommend a man whom he thought capable of rehabilitating the property. He recommended Mr. Bernet who had previously remarked in a casual conversation that he thought the Nickel Plate could be made to pay dividends.

Under the able leadership of Mr. Bernet, as president and general manager, and as federal manager under government control, the Nickel Plate soon became a profitable line. Net operating revenues per mile increased from $6,860 in 1916 to $9,338 in 1920, and the payment of dividends on the common stock, which had occurred previously in only four years (1909-12, inclusive) of the line's existence was begun in 1921, with a declaration of 5 per cent from the earnings of 1920. Meanwhile Mr. Bernet had undertaken a program of rehabilitation of the physical property of the road, which included the construction of second track, the erection and modernization of freight and passenger stations, shops and enginehouses and the purchase of modern motive power and rolling stock.

By 1924, due largely to the guiding hand of Mr. Bernet, the financial position of the Nickel Plate had improved to such an extent that plans were announced for the acquisition of the Erie, the Pere Marquette, the Chesapeake & Ohio and the Hocking Valley. This plan, however was subsequently rejected by the Interstate Commerce Commission.

When the Van Sweringen brothers acquired control of the Erie this road, just as the Nickel Plate had been, was in a run-down condition and in need of rehabilitation. It was only natural, therefore, that they should again look to Mr. Bernet as the logical man to inaugurate the necessary policies, with the result that he was made president of the Erie on January 1, 1927. Mr. Bernet's efforts to place the line on an efficient operating basis were rewarded with a high degree of success. By 1929, after a lapse of more than 20 years, the road was able to resume the payment of dividends on its first and second preferred stock.

In 1929, shortly after the Van Sweringens announced their intention to build a major transportation system around the C. & O., Mr. Bernet was made president of this company, the Pere Marquette and the Hocking Valley. In 1933, he was elected also to the presidency of the Nickel Plate.

John J. Bernet was born on February 9, 1868, at Brant, Erie County, N. Y., and received his education in the public schools of Buffalo, N. Y. He entered railway service in 1889 as a telegraph operator on the Lake Shore & Michigan Southern (now part of the New York Central), being promoted to train dispatcher on March 12, 1895, and to trainmaster on April 2, 1901. Subsequently, he was advanced to assistant superintendent and to superintendent on February 1, 1905, being promoted to assistant general superintendent at Cleveland, Ohio, in November, 1905, and to general superintendent on October 1, 1906. On January 1, 1911, Mr. Bernet became assistant to the vice-president of the New York Central Lines, West of Buffalo, with headquarters at Chicago, his title being changed to assistant vice-president on April 15, 1912. When the New York Central & Hudson River and the Lake Shore & Michigan Southern were consolidated into the New York Central on January 1, 1915, Mr. Bernet was chosen resident

vice-president at Chicago for the New York Central, acting as general representative for the company in that territory.

On July 15, 1916, Mr. Bernet was elected president and general manager of the New York, Chicago & St. Louis, and served as its federal manager from October 28, 1918, to March 1, 1920. On the latter date he again assumed the title of president and continued as head of the Nickel Plate until his election as president of the Erie on January 1, 1927. On May 24, 1929, he resigned as president of the Erie to become head of the Chesapeake & Ohio, the Hocking Valley and the Pere Marquette. In February, 1933, he was elected also executive head of the Nickel Plate.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading for the week ended June 29 totaled 618,036 cars, an increase of 50,189 cars over the previous week but a decrease of 27,967 and 23,694 cars respectively as compared with corresponding weeks of 1934 and 1933. Coal loading for the week amounted to 118,401 cars, an increase of 30,679 over the previous week; loading of this commodity was also above that for corresponding weeks of the two preceding years. Of the other commodities all showed increased loading as compared with the previous week, but all except forest products were down from the comparable 1934 week. The summary, as compiled by the Car Service Division of the Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, June 29

Districts	1935	1934	1933
Eastern	144,199	141,958	146,545
Allegheny	126,166	128,961	131,227
Pocahontas	44,366	44,350	45,549
Southern	83,629	84,755	91,672
Northwestern	87,116	94,689	84,473
Central Western	85,180	99,955	89,904
Southwestern	47,380	51,335	52,360
Total Western Districts	219,676	245,979	226,737
Total All Roads	618,036	646,003	641,730
Commodities			
Grain and Grain Products	28,230	43,084	46,424
Live Stock	9,406	18,256	15,397
Coal	118,401	107,129	113,955
Coke	5,798	6,418	7,216
Forest Products	28,495	24,266	28,466
Ore	32,590	34,874	18,817
Merchandise L.C.L.	157,388	160,624	172,277
Miscellaneous	237,728	251,352	239,178
June 29	618,036	646,003	641,730
June 22	567,847	623,322	609,627
June 15	653,092	618,881	592,759
June 8	630,836	616,768	569,157
June 1	565,342	579,656	512,974
Cumulative Total, 26 Weeks	15,176,057	15,436,623	13,344,300

Car Loading in Canada

Car loadings in Canada for the week ended June 29 totaled 45,436 cars as compared with 43,580 cars for the previous week and 46,645 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
June 29, 1935	45,636	20,680
June 22, 1935	43,580	21,483
June 15, 1935	45,726	21,510
June 30, 1934	46,645	21,056
Cumulative Totals for Canada:		
June 29, 1935	1,113,985	580,407
June 30, 1934	1,094,814	602,092
July 1, 1933	900,680	499,664

Eighteen Railroads Selected for Inquiry

WASHINGTON, D. C.

IN some of the most diplomatic language ever used to describe a Senate investigation (such investigations usually being rather rough-and-tumble affairs), Co-ordinator Eastman on July 5 announced a list of 18 railroad systems to be investigated by, or in the name of, the Senate committee on interstate commerce in relation to their financial operations and "banker control," under the provisions of Senate Joint Resolution 71. "Good" railroads and others whose reputation is not so good; large roads and smaller ones; roads in receivership or bankruptcy and an equal number of others that so far have escaped such a fate; Van Sweringen roads, Morgan roads, and Kuhn, Loeb roads, are included in the list selected by Mr. Eastman in a letter to Chairman Wheeler of the Senate committee in which he attempts to show that this is not to be a one-sided inquiry.

Although the resolution as introduced by Chairman Wheeler was in wording sufficiently broad to cover all railroads, it was amended to cover only those to be selected by the Co-ordinator and the investigation is to be conducted with the assistance of the Interstate Commerce Commission and other government agencies. Max Lowenthal, a New York lawyer, has been selected as counsel for the committee. Hearings are expected to begin in the Fall.

The list includes nine that are being operated under the bankruptcy law or by receivers and six Van Sweringen roads. Six of them are in the western region, eight in the eastern region and four in the southern region. The railroads now selected are the following, including all railroads owned, operated, leased or controlled by the companies, directly or indirectly, or under the same trustees:

Western Region

St. Louis-San Francisco
Chicago, Rock Island & Pacific
Missouri Pacific
Chicago & North Western
Chicago, Milwaukee, St. Paul & Pacific
Kansas City Southern

Eastern Region

Chesapeake & Ohio
Erie
New York, Chicago & St. Louis
Pere Marquette
Chicago & Eastern Illinois
Pennsylvania
Wabash
Delaware & Hudson

Southern Region

Southern
Illinois Central
Central of Georgia
Florida East Coast

Definite considerations which guided him in making the selection were explained by Mr. Eastman in the letter in an effort to show that inclusion in the list was not evidence of any classification as an "undesirable citizen."

1. It is manifestly impossible for your committee to make a "thorough and complete investigation" of the character described in the resolution of all the "interstate railroads, railroad holding companies, railroad affiliates, and subsidiaries."

2. The ground to be covered ought to be fairly typical of the railroad situation as a whole. The object of the investigation, I take it, is not merely to exploit certain possibly malodorous or questionable transactions, but to appraise general railroad

(Continued on page 50)

Superintendents Discuss Operating Problems

Uniformly good committee reports are considered at the Chicago convention

Part II

Six committee reports, covering today's most important operating activities were considered at the forty-first annual convention of the American Association of Railroad Superintendents at Chicago, June 18-20. A partial report of the proceedings of the convention, including abstracts of the addresses delivered, was published in the *Railway Age* of June 29. Abstracts of three of the reports follow:

Fast Passenger Trains

A committee report on the operating aspects of the demand for faster passenger train service was presented by F. G. Gurley, assistant to vice-president, Chicago, Burlington & Quincy, as chairman. This report is abstracted below:

When the railroads considered inaugurating faster passenger train service, they fixed the first consideration as safety and the second comfort. Safety and comfort require a track structure that is adequate for the loads and speeds imposed by the schedule. Not only must the track be strong, but the approach to and the super-elevation of curves must be such that trains may attain comparatively high speeds without discomfort. The nature and amount of the track work to be done before a faster passenger train schedule is made effective is influenced by the standard of maintenance and the practices with reference to curves that had been followed before, and these, of course, have been influenced largely by the speed at which trains have been operated previously. No fundamental change has been found necessary in the track structure to accommodate these faster passenger train schedules, but if the maximum speed is to be substantially in excess of the previous maximum, a careful resurvey of the railroad is essential.

The lengthening of the spiral and the uniformity of the elevation are as important as the amount of the elevation itself. Superintendents must lean upon the engineers for advice in such important matters, while the engineers need advice from the superintendents in arriving at their conclusions. When the decision is finally made, the superintendent must make the standards decided upon effective and see to it that the track is maintained accordingly.

Switches on curves are not desirable, yet circumstances have often required that switches be so located. Safety at increased speeds has warranted the relocation of such switches on some railroads. Automatic signals and highway warning signals require careful analysis. On some railroads the inauguration of faster passenger train schedules has influenced or forced the relocation of automatic signals. The amount of such work necessary is dependent upon the speeds that were in the minds of the railroad officers when the signals were installed; in some instances the spacing is sufficient to provide proper braking distance, but in others it may not be.

A fast schedule between terminals is impossible if the train is to stop at all intermediate stations. It is not, therefore, a question of an excessively high maximum speed so much as it is one of a comparatively high sustained speed. Maximum train speeds are much closer to the speed of some famous airplanes than might be imagined; for example, the famous airplane, The Spirit of St. Louis, in which Lindbergh made his flight from New York to Paris, had an economical cruising speed of 97 miles an hour and a high speed of 128 miles an hour.

In operating a train from one terminal to the other, there are certain conditions which necessitate a reduction below the maximum speed. In order to assist in identifying these locations some railroads have found it desirable to place special boards to indicate the speed, these special boards being in addition to the written speed instructions.

Either the steam engine or the Diesel-electric engine will develop all of the speed that is called for by any schedule existing or contemplated, and insofar as speed is concerned, the two power plants are about equal. The advantages and disadvantages of both are in other channels.

On some railroads which have inaugurated faster passenger train schedules, the maximum allowable speed is the same as it was before, while on others the speed limit of the faster passenger train is 100 miles per hour, whereas the previous existing limit had been 75 miles per hour.

On roads using the steam engine, the place where water or fuel is to be taken enroute should be determined and a survey made to see if the facilities at that station are such that these supplies may be taken with the minimum delay. On some lines it has been found advisable to relocate water cranes and to increase the size of the water lines which bring water to the crane. On parts of the railroad where single track operation is involved, the schedule of regular trains, particularly schedules of first class trains, should be studied and if such studies indicate that important trains are to meet regularly at some station, then consideration should be given to the location of passing tracks, passing track switches and the manipulation of such switches. Where these faster trains operate on a single track railroad, it is well to give consideration to the amount of time by which the schedule of these trains is cleared by inferior class trains. In some instances, it has been found desirable to increase the standard 5-min. clearance requirement to 10 min.

These trains must make some stops, although it is important that these be held to a minimum. At places where the train is to stop, it is helpful to have a marker placed to indicate where the engineman should stop. On fast trains there is not as much change in consist as in other trains and the establishing of a definite place where the train is to stop greatly facilitates the handling of express, baggage and mail, as well as passengers.

Mr. Gurley attached an appendix to his report, listing the high-speed trains in this country and abroad, which list will appear in a later issue.

Discussion

In reply to a question from Frank Cizek (D. L. & W.) as to the increased passenger revenue resulting from the operation of these trains, Mr. Gurley explained that all of the trains in the West had shown satisfactory records in this regard, a questionnaire handed to passengers on Burlington trains indicating that between 20 and 25 per cent of them would have used highway transportation except for the new trains. Responding to a query from W. A. Aiken, Jr., (R. F. & P.). Mr. Gurley stated that, with present fast freight schedules, the increased super-elevation on curves has little effect on freight train operation, this super-elevation being a compromise between the maximum for high-speed operation and for freight operation. The general practice, he explained, has been to avoid increasing the super-elevation to a point that might be detrimental to freight operation. So

far as interference with other trains is concerned, most of the new trains operate over double track and even on single track, their higher overall speed makes up for any additional delays that might occur along the line.

In response to questions by H. C. Rochester (C.N.R.), Mr. Gurley stated that the operating cost of the Zephyr has averaged between 30 and 35 cents a mile, including all factors except dining car losses and interest and depreciation. He also advised that, except on the Union Pacific, one man head-end crews are provided on the motor-powered trains. In the latter case, a maintainer is added, who, by agreement, is a member of the fireman's organization.

Faster Freight Trains

A report on the operating aspects of the demand for faster freight train service, prepared by a committee of which J. A. Murphy, superintendent of transportation, Canadian National, was the chairman, is abstracted below:

Is it physically possible for the railroads to increase further the speed of freight trains? From the standpoint of roadbed and mechanics, the answer is in the affirmative. However, there is room for further increase in speed without increased cost by cutting down time at terminals.

In the matter of mechanical inspection, there are many inconsistencies. In some cases a complete air brake inspection is required at intermediate terminals where the only change in the make-up of a train is a few cars added on either the head or rear end or, perhaps, only the engine and a caboose changed. In other cases, air brake inspection is required only of the cars which are added. A complete survey should be made by mechanical officers and such inspection cut down to the minimum necessary for safe operation.

The same may be applied to the general mechanical inspection of trains at terminals. Trains are running in some cases as far as 200 miles without being examined by a car inspector, while on other territories, under exactly similar conditions, a train is inspected every 100 miles. Perhaps the determining factor in many instances is the fact that it has always been done that way.

There is a tendency to economize too freely in such items as car inspectors, repairers, oilers and air brake men. If an important train were delayed in a yard through failure of the yardmaster to order out an extra yard engine, or if it were delayed on the road on account of being given too much tonnage, to avoid running an extra train, it would be considered poor railroading. On the other hand, if a train is delayed in a yard because the car inspectors are working on another train, we are sometimes told that if additional men had been employed to handle this train, they would have had no work to do for the balance of the shift, and that, therefore, it would be uneconomical to employ them. There is an inconsistency here, in that while one department is willing to spend $100 to operate an extra yard engine, or an extra train, in order to give necessary service or speed up traffic, their objective may be defeated by another department being unwilling to spend $3 or $4 for a car inspector. The same remarks will apply in a relative degree to roundhouse staffs.

Present-day traffic conditions demand a very exacting standard of service. The rendering of such service requires the establishment of certain train and transfer schedules. Any attempt at economy which interferes in any way with the maintenance of these schedules, whether it be in the mechanical or clerical staff or elsewhere, favors our competitors.

The establishment of facilities for testing brake equipment on cars which are being loaded at freight sheds, packing houses, express sheds, grain elevators and other similar points, is another method of insuring against delays on the road.

Fast freight trains are being held at terminals for branch line connections; in many cases such connections consist only of shed cars, the contents of which could be trucked from branch line stations to the junction point and there loaded into the cars without delaying through trains, this due to the fact that the branch line train is delayed for switching and other causes enroute, gets into the terminal late, has to be inspected, switched, etc. Improvements can be made in the classification of trains and by constant supervision of shed loading, in order to minimize switching and facilitate the dispatch of trains from terminals. The teletype method of sending sequence consists and billing particulars to advance terminals is helpful.

The time occupied at terminals by clerical work—billing, manifesting, checking and preparation of journals—is a serious factor in delaying trains. Studies should be made as to how clerical work can be reduced.

The prevailing method of assembling l.c.l. traffic from various outlying parts of a terminal by switch engines, which have to wait for late closing of sheds, and then move through congested portions of a terminal to the forwarding yard is one of the greatest drawbacks to the prompt dispatch of evening merchandise trains. The trucking of such traffic from the warehouse of the shipper to a central depot would not only reduce switching and train delay, but would also minimize handling of freight and the possibility of breakage.

It is important that trains operate on time, even to the extent of sacrificing connections if necessary, and operating extra train mileage to take care of such delayed connections. More traffic will be won and held by dependability of schedules than in any other way.

Conclusions

It is doubtful if a further increase in speed of freight trains, based on a reduction in tonnage, can be justified. Where the overall average speed of freight trains can be increased by reducing the dead time, there is obviously no increase in the cost. But where a higher average speed can only be attained by decreasing the load, there is a direct increase in the cost per ton-mile. Undoubtedly if and as speed increases, further expenditures will be necessary for the strengthening of track, bridges and equipment.

Statistics show that on some railroads at least, it has been possible to increase the speed of freight trains up to a certain point without a corresponding increase in operating costs. This has been largely due to improvements in track and roadbed and the purchase of heavier power, which has not only permitted handling of longer trains but has also resulted in longer engine runs and the elimination of engine terminals. Improvements in freight sheds, switching facilities, classification and terminal performance generally have, of course, also been prominent factors.

Discussion

F. H. Rutherford (C. & E. I.) stated that much can be done to eliminate terminal delays at point of origin and destination. For example, he cited the practice of his railroad of making a very careful inspection of trains at the initial terminal, since this terminal is charged with all delays that may occur at intermediate terminals that result from improper initial inspection or classification. Joe Marshall (A. A. R.) cautioned that increased speed means increased floor vibration and possibility of damage. Particularly at present, the superintendents should work closely with mechanical officers to prevent increased damage as freight train speed increases. J. W. Graves (Erie) stated that, by the substitution of lighter power on trains on which tonnage had been reduced to permit greater speed, a more economical fuel performance has been obtained, thus keeping costs down despite reduced tonnage. A. F. McSweeney (P. R. R.) contended that the speed of freight trains should not be considered from the standpoint of one railroad only, but that there was much room for improvement in interchange between railroads and suggested that studies be made with a view to extending the operation of through freight trains over two or more railroads. W. J. Warnick (T. H. & B.) asked if it were the recommendation of the committee that the speed of freight trains should be increased, regardless of cost, to retain the business to which Chairman Murphy replied that it was the conclusion of the

committee that the speed of freight trains must be increased. The question as to how much, if any, this will increase costs depends on the physical condition of the property.

Curbing Crossing Accidents

M. F. Steinberger, manager of highway transportation of the Baltimore & Ohio, presented a report on curbing highway crossing accidents, which is abstracted below:

The following tabulation shows the relationship of grade crossing accidents involving railroads to the total number of automobile accidents:

Types of Accidents Resulting in Persons Killed and Injured in 1934

	Number of Acci-dents	Per Cent	Persons Killed	Per Cent	Persons Injured	Per Cent
Collision with:						
Pedestrian	337,810	38.3	15,950	43.8	269,980	28.3
Automobile	381,910	43.4	8,570	23.6	503,710	52.8
Horse-drawn vehicle	6,170	0.7	180	0.5	5,720	0.6
Railroad train	4,128	0.5	1,554	4.3	4,300	0.5
Street car	14,110	1.6	320	0.9	13,360	1.4
Other vehicles	8,820	1.0	360	1.0	8,590	0.9
Fixed object	58,210	6.6	4,140	11.4	73,460	7.7
Bicycle	19,400	2.2	580	1.6	17,170	1.8
Non-collision	46,750	5.3	4,530	12.4	54,380	5.7
Miscellaneous	3,530	0.4	180	0.5	2,860	0.3
Total	880,838	100.0	36,364	100.0	953,530	100.0

Thus we see that 0.5 per cent of accidents, 4.3 per cent of persons killed and 0.5 per cent of persons injured in automobile accidents were chargeable to accidents at railroad crossings. Though such accidents are in the public eye, and given prominence far out of proportion to their ratio of the total, any situation which involved the railroads in 1,554 deaths and 4,300 injuries and casualties at highway grade crossings during 1934 deserves the deepest consideration from railroad managements.

In the analysis of any such situation it, of course, is incumbent upon us to determine causes of accidents. The following table shows for the assigned reasons 561,000 accidents in 1934:

	Number of Accidents	Per Cent
Exceeding speed limit	123,980	22.1
On wrong side of road	92,570	16.5
Did not have right of way	136,880	24.4
Cutting in	19,630	3.5
Passing standing street car	2,810	0.5
Passing on curve or hill	9,540	1.7
Passing on wrong side	2,800	0.5
Failed to signal and improper signaling	28,610	5.1
Car ran away—no driver	3,370	0.6
Drove off roadway	60,590	10.8
Reckless driving	53,290	9.5
Miscellaneous	26,930	4.8
Total	561,000	100.0

It was also developed that of the cars involved, 80.1 per cent were passenger cars, 13.0 per cent commercial cars, while the remaining 6.9 per cent were taxis, buses, motorcycles, etc. Further investigation determines that approximately 94 per cent of all motor vehicles involved in accidents were apparently in good condition, only 1.6 per cent with faulty brakes and the remainder with defective steering mechanisms, headlights out, blowouts, etc.

A tabulation showing the nature of accident and crossing protection is particularly illuminating:

	Struck by Train		Ran into Side of Train		Total	
Kind of Protection	Num-ber	Per Cent	Num-ber	Per Cent	Num-ber	Per Cent
Closed crossing gates	70	3.2	16	1.6	86	2.6
Crossing watchmen	154	7.2	123	11.8	277	8.7
Audible and visible signal	161	7.4	60	5.8	221	6.8
Audible signal	92	4.3	28	2.8	120	3.8
Visible signal	300	13.9	102	9.8	402	12.6
Unprotected	1,378	64.0	709	68.2	2,087	65.5
Total	2,155	100.0	1,038	100.0	3,193	100.0
Per Cent	67.5		32.5		100.0	

These figures, taken by themselves and without regard to location, density of highway or rail traffic, indicate that 32.5 per cent of all accidents are caused by cars running into sides of trains, that 65.5 per cent occur at unprotected crossings and that but 2.6 per cent occur where there are closed crossing gates.

In order that the influence of the various types of crossing protection or lack thereof may be visualized, a table is given indicating the nature of protection, figures being as of January 1, 1934:

	Number	Per Cent
Crossing gates	4,547	1.9
Crossing watchmen	6,041	2.6
Audible and visible signals	10,109	4.3
Audible signals	3,543	1.5
Visible signals	6,388	2.7
Not specially protected	205,199	87.0
Total	235,827	100.0

The accidents where there are crossing gates bear a reasonably close relation to the number of crossings so protected. There are a disproportionate number of accidents at points where there are crossing watchmen and visible signals. While 87.0 per cent of crossings are not specially protected, 65.5 per cent of accidents occur at such crossings, and these crossings are those of relatively light traffic.

An analysis of deaths in all automobile accidents and those resulting from grade crossing accidents is shown below:

	Deaths per 10,000 Vehicles Registered	
Year	All Accidents	Grade Crossing Accidents
1926	10.59	0.94
1927	11.09	0.85
1928	11.38	0.88
1929	11.73	0.79
1930	12.35	0.64
1931	12.98	0.61
1932	12.16	0.54
1933	12.86	0.55
1934	14.64	0.54

While deaths generally have been increasing, those occurring at grade crossings have been decreasing. In 1934, all accidents increased 14 per cent over 1933, while grade crossing accidents decreased 2 per cent. Increased protection, elimination of grade crossings and decreased rail traffic have contributed to these decreases, together with the fact that attempts to educate the public as to crossing dangers have become more pronounced.

Perhaps railroad men have been too prone to blame the highway user and to not visualize their own shortcomings. A letter received by the committee discusses this phase:

"No sane man deliberately runs into the side of a train either to commit suicide or to show how foolish he can be. The number of intelligent people running their cars into the sides of trains is conclusive proof that there is some fundamental difficulty. When trains and automobiles are both running at high speeds, it is largely a question of chance as to whether the automobile strikes the train or the train strikes the automobile."

While there is merit to this, its effectiveness is somewhat vitiated by the fact that in many cases the automobile runs into the side of a slow moving freight train or into the side of standing trains or switch engines.

"The railroads are frequently negligent in the use of crossing signals. Standard main line warning signals, frequently with reflecting units, are placed at infrequently used crossings and the public soon learns to disregard them. In such a case, safety would be promoted by eliminating the signals and flagging these crossings. Many of the railway crossing signs are inadequate. On certain railroads near Chicago the small red lantern hung on the end of crossing gates was replaced by a string of red lights strung along the crossing arm and accidents at those crossings were practically eliminated.

"The excessive operation of warning lights or signals at crossings where trains are standing in the block or switching some distance down the line causes disregard of signals. Devices are available which permit a train crew to cut the bell or light out of operation, and they should be used more extensively. The railways are facing the necessity for the revision of their warning intervals on lines where high-speed trains are operated. A track circuit sufficiently long to afford adequate warning for a train traveling 90 miles per hour is excessive for a train traveling 20 miles per hour, again leading to disregard of signals.

"Federal authorities say that a large part of the grade crossing program will come through the elimination or abandonment of crossings and through the control of the construction of new crossings, rather than through the construction of grade separation structures. The railroads can help in this campaign by going on record as favoring the detailed study of existing crossings by public authorities to eliminate as many as possible and to concentrate the travel on a smaller number which can be separated."

This committee believes that despite improvements in lights,

bells, gates, etc., the primary steps necessary to eliminate grade crossing accidents are:

Educational campaigns, through the medium of the radio, movies, newspapers, posters, talks before schools, clubs, etc., to impress upon the public mind the fact that there is danger and that with a little care that danger can be avoided.

The passage of reasonable legislation requiring stops at crossings do little good, even though desirable, unless strictly enforced.

The railroads, of course, should adopt such means as are within their power to minimize the danger, among these means being:

Removal of physical obstacles so that motorists may have a clearer view of tracks.

The abandonment, in co-operation with the authorities, of grade crossings not actually needed. This can very often be done by diversion of traffic from one crossing to another relatively close by.

Separation of grades, in collaboration with public authorities.

Both public authorities and railroads should avoid the creation of new grade crossings to the greatest extent possible.

Types of signals should be as nearly standard as possible in order that motorists may recognize them for what they are wherever met.

Discussion

Dr. C. S. Duncan (A. A. R.) asked if the educational campaign should be considered a responsibility of the railroads and if there were any means of carrying out the recommendation that the railways avoid the creation of new grade crossings to the greatest extent possible. Mr. Steinberger replied that, in his opinion, the railways have a large responsibility in educating the public. As to avoiding new crossings, he stated that, with the proper co-operation between the railroads and public authorities, much could be done.

C. J. Brown (M. P.) stated that people who drive their cars into the sides of trains must not necessarily be considered either drunk or foolish. He cited several occurrences of this sort where the driver could hardly be said to be entirely at fault, and recommended the use of approach warnings to minimize this and other crossing perils. P. G. Campbell (C. & N. W.) and Burt T. Anderson (Union Switch & Signal Company and General Railway Signal Company) supported Mr. Brown's views.

Further committee reports will appear in a later issue.

Eighteen Railroads Selected for Inquiry

(*Continued from page 46*)

conditions with especial reference to the conduct of financial matters and the part which financial influence plays in railroad management, purposes, and policies, all with a view to correcting any conditions, either by legislation or otherwise, which may be found to be in need of correction. In other words, the investigation will have the wholesome object of bringing representative conditions to light and showing those who use or invest in the railroads either that these conditions need cause no apprehensions on their part or that there are various steps which can and should be taken to remove reasonable ground for apprehensions.

3. At the public hearings before your committee prior to the adoption of the resolution, the affairs of certain railroads were discussed and various alleged transactions in connection therewith were criticized sharply. As a matter of fairness, therefore, the railroads whose affairs were so discussed ought to be included within the scope of the investigation which is now to be had, in order that these issues may be followed to a conclusion.

4. If fairly typical conditions are to be considered, it is desirable that the railroads to be selected should not all be located in one part of the country, but should be representative of the three sections, East, West, and South, which are commonly recognized in railroad affairs.

5. Inasmuch as the financial affairs of the railroads and their relations with financial interests are apparently, from the terms of the resolution and the discussions which preceded its adoption, to play an important part in the investigation, it is desirable, if fairly typical conditions are to be considered, that the railroads selected should be representative of the financial interests which have been most closely associated with the railroads. The two leading interests to be considered in this connection are J. P. Morgan & Co., and Kuhn, Loeb & Co., and affiliated financial institutions. There are others, such as Speyer & Co., J. & W. Seligman & Co., Hayden, Stone & Co., and Dillon, Read & Co., which have played lesser parts.

6. While it seems desirable, in view of the emphasis in the resolution upon financial matters, including reorganizations, that railroads which are in receivership or bankruptcy or in imminent danger thereof should have an important place in the investigation, it should by no means be confined to such railroads, if it is to be fairly typical of general conditions.

7. Similar reasoning leads to the conclusion that, while larger roads should mainly be selected, some smaller roads should also be included in the list.

It will be evident, therefore, that the fact that any particular railroad has been included in the list is not to be taken, and cannot be taken, as evidence that it is an undesirable citizen in the railroad world, or even that I believe it so to be. The same thing may be said of the financial interests which have been associated with these railroads in the past. My duty, as I see it, is not to pass judgment, or even to suggest the course of the investigation, but merely to select subjects for inquiry, and the reasons for selection are those given above and none other.

If it should prove that I have staked out more ground than can well be covered, your committee will, of course, be guided by practical necessities in its inquiry. I should make it clear, however, that as I interpret my duty under the resolution, I am not precluded by the action in accordance therewith which I am now taking from further action at a later time, if it should deem desirable and appropriate. As the investigation goes on, needs may be shown, in order to pursue certain lines of inquiry to a conclusion, for selecting other roads in addition to those now selected. I reserve the opportunity for such selection, if such need develops.

Comment. The affairs of the Frisco, the Rock Island, and the Missouri Pacific were all discussed at the hearings preliminary to the adoption of the resolution. All three are in bankruptcy. J. P. Morgan & Co. has been associated with the financial affairs of the Missouri Pacific, and various other financial concerns with the financial affairs of the Frisco and the Rock Island. Financial reorganizations of the Milwaukee and the North Western are said to be under consideration. Kuhn, Loeb & Co. has been associated with the financial affairs of both of these railroads, and with those of the Kansas City Southern. The latter is a comparatively small railroad.

The Chesapeake and Ohio, the Erie, the Nickel Plate, the Pere Marquette, and the Chicago and Eastern Illinois all belong to the Van Sweringen group of railroads, along with the Missouri Pacific System, and J. P. Morgan & Co. and affiliated financial institutions have been associated with their financial affairs. This group of railroads was discussed at the hearings prior to the adoption of the resolution. Kuhn, Loeb & Co. has been associated with the financial affairs of the Pennsylvania, which, in view of the size of the Van Sweringen group, is appropriate of selection in this region as representative of rival financial interests. The Wabash is named by reason of the large stock interest of the Pennsylvania, coupled with the fact that the Wabash is in receivership and might not technically be regarded as now under Pennsylvania control. The Delaware & Hudson is a comparatively small railroad, with whose financial affairs Kuhn, Loeb & Co. has been associated, and which has certain links with the Kansas City Southern in western territory.

J. P. Morgan & Co. has been associated with the financial affairs of the Southern; Kuhn, Loeb & Co., with those of the Illinois Central. The Central of Georgia is named by reason of the majority stock interest of the Illinois Central, coupled with the fact that the Central of Georgia is now in receivership. The Florida East Coast is a comparatively small railroad, now in receivership.

NEWS

Rail Net for Five Months a Return of 1.85 Per Cent

Total of $160,787,970 compares with $184,829,269 or 2.12 per cent in 1934

Class I railroads for the first five months of 1935 had a net railway operating income of $160,787,970, which was at the annual rate of return of 1.85 per cent on their property investment, according to reports compiled by the Bureau of Railway Economics of the Association of American Railroads. In the first five months of 1934 their net railway operating income was $184,829,269, or 2.12 per cent.

Operating revenues for the five months totaled $1,354,258,406, compared with $1,347,117,608 for the same period in 1934, an increase of 0.5 per cent. Operating expenses amounted to $1,042,998,567, compared with $1,003,973,812 for the same five-months period in 1934, an increase of 3.9 per cent.

Class I railroads in the five months paid $101,451,246 in taxes compared with $105,585,327 in the same period in 1934, or a reduction of 3.9 per cent. For the month of May alone, the tax bill amounted to $20,897,991, a reduction of 3.5 per cent under May, 1934.

Forty-two Class I railroads failed to earn expenses and taxes in the first five months of 1935, of which 9 were in the eastern district, 9 in the southern and 24 in the western district.

Class I railroads for May had a net railway operating income of $39,505,068, which, for that month, was at the rate of 2 per cent. In May, 1934, their net railway operating income was $39,699,195 or 2 per cent. Operating revenues for May amounted to $279,549,320, compared with $282,039,312 in May, 1934, a decrease of 0.9 per cent. Operating expenses in May totaled $209,195,937 compared with $210,028,161 in the same month in 1934, or a decrease of 0.4 per cent.

Class I railroads in the eastern district for five months in 1935 had a net of $115,029,365, at the rate of 2.6 per cent. For the same period in 1934, their net was $122,521,939, or 2.77 per cent. Operating revenues in the eastern district for five months totaled $707,435,295, a decrease of 0.4 per cent compared with 1934, while operating expenses totaled $517,643,943, an increase of 1.7 per cent. Class I railroads in the eastern district for May had a net of $24,474,378, compared with $27,084,454 in May, 1934.

Class I railroads in the southern district for the five months had a net of $20,892,737, at the rate of 1.52 per cent. For the same period in 1934, their net amounted to $29,114,177, at the rate of 2.11 per cent. Operating revenues in the southern district for five months amounted to $178,521,512, a decrease of 0.4 per cent compared with the same period in 1934, while operating expenses totaled $139,974,610, an increase of 6.4 per cent. Class I railroads in the southern district for May had a net of $2,931,950, compared with $3,986,374 in May, 1934.

Class I railroads in the western district for five months had a net of $24,865,868, at the rate of 0.86 per cent. For the same five months in 1934, they had a net of $33,193,153, at the rate of 1.14 per cent. Operating revenues in the western district for five months amounted to $468,301,599, an increase of 2.4 per cent above the same period in 1934, while operating expenses totaled $385,380,014, an increase of 6.1 per cent. For May railroads in the western district reported a net of $12,098,740, compared with $8,628,367 for the same roads in May, 1934.

CLASS I RAILROADS—UNITED STATES

Month of May

	1935	1934	Per Cent of Increase
Total operating revenues	$279,549,320	$282,039,312	0.9 Dec.
Total operating expenses	209,195,937	210,028,161	0.4 Dec.
Taxes	20,897,991	21,665,002	3.5 Dec.
Net railway operating income	39,505,068	39,699,195	0.5 Dec.
Operating ratio—per cent	74.83	74.47	
Rate of return on property investment	2.00%	2.00%	
Five months ended May 31			
Total operating revenues	$1,354,258,406	$1,347,117,608	0.5
Total operating expenses	1,042,998,567	1,003,973,812	3.9
Taxes	101,451,246	105,585,327	3.9 Dec.
Net railway operating income	160,787,970	184,829,269	13.0 Dec.
Operating ratio—per cent	77.02	74.53	
Rate of return on property investment	1.85%	2.12%	

Dec. = decrease

High-Speed Train Service Brings Passenger Business

Continued patronage indicates that innovations are popular with traveling public

That the fast trains placed in service by nine of the western railroads are stimulating travel is indicated by their continued patronage. The "400" of the Chicago & North Western, which was placed in service on January 2, 1935, has carried an average of 150 passengers a day each way between Chicago and the Twin Cities during the six months it has been in service. With new Burlington and Milwaukee trains running between these cities, the daily average for the "400" is now between 130 and 140 passengers. While this train had five cars originally, on frequent occasions it has been necessary to add additional cars. On July 4, a total of 220 passengers left Chicago in six cars. A lounge car with a bar has been added to this train.

The patronage of the Twin Zephyrs of the Chicago, Burlington & Quincy, which were placed in service between these cities on April 21, likewise has increased. Since June 2, when each of the trains was placed on a round-trip daily basis, each train, with a capacity of 88 passengers, has averaged 78 passengers per trip. The daily average of the four trips has been 315 passengers, which is an increase of 64.4 per cent northbound and 56.1 per cent southbound, as compared with the number of passengers carried during May, when each train made one trip a day.

The Hiawatha, which was placed in service between these cities on May 29 by the Chicago, Milwaukee, St. Paul & Pacific, has averaged 276 passengers per trip, the total number carried in both directions being 16,564. The highest record was on June 29, when 500 revenue passengers were carried on the northbound train and 408 on the southbound train. The train has been operated throughout June with seven cars.

The Streamliner "City of Portland," operating over the Chicago & North Western and the Union Pacific from Chicago to Portland, Oregon, since June 6 likewise has been well patronized. Sleeping accommodations have been sold out completely on each trip and, since the adoption of the plan for making coach-seat reservations to insure accommodations for that class of travel, the coaches have likewise been filled to capacity.

In the Chicago-St. Louis service where the schedule was reduced to 5½ hr. and the Alton and Wabash added new trains,

patronage has increased. Since June 2, when the Wabash, the Chicago & Eastern Illinois and the Illinois Central all placed trains on a 5½-hr. schedule, patronage of the Banner Blue Limited of the Wabash increased 60 per cent; of the Century of Progress of the Chicago & Eastern Illinois, 60 per cent; and of the Daylight of the Illinois Central, 10 per cent. Since the Alton placed its "Abraham Lincoln" in service on July 1, its passenger business between these cities has increased 25 per cent.

Boys Wreck Train Seeking Thrill

A 16-year-old boy has confessed that he and a companion put railroad spikes in the path of a Missouri Pacific freight train near Little Rock, Ark., on June 27, to "see what would happen." The train was derailed and burned and three hoboes stealing rides were killed.

Sargent and Scandrett Added to Panel of Standing Trustees

The Interstate Commerce Commission has issued orders adding the names of F. W. Sargent, president of the Chicago & Northwestern, and H. A. Scandrett, president of the Chicago, Milwaukee, St. Paul & Pacific, to its panel of standing trustees from which appointments may be made by the federal courts.

Fourth Section Relief Authorized on Canned Goods

Division 2 of the Interstate Commerce Commission has authorized the railroads, on conditions, to establish and maintain rates on canned goods, in carloads, from points in Colorado to destinations in western trunk line territory, on and east of the Missouri river, without observing the long-and-short-haul provisions of section 4 of the interstate commerce act.

Empire Builder Derailed

Twenty-four persons were injured, two seriously, on July 6, when the "Empire Builder" of the Great Northern was derailed at Ramsville, Mont., where the train ran into a washout. Approximately 1,000 ft. of track had been washed out by a cloudburst. Until the line was repaired on July 8, trains were routed over the Northern Pacific between Fargo, N. D., and Billings, Mont.

North Coast Limited on Exhibition

More than 125,000 persons passed through a unit of the North Coast Limited during a 2,500-mile tour of the Northern Pacific system, on which exhibitions were made at 70 stations between the Twin Cities and the Pacific Northwest. Prior to its tour, the train was completely air-conditioned and a new type day coach, with revolving, reclining seats for 40 persons in the main lounge and men's and women's rooms at either end, was added to the train.

I. C. C. Orders Increase in Georgia Rates

Finding that the reduced class rates ordered by the Georgia Public Service Commission on August 20, 1934, for intrastate application, have caused unjust discrimination against interstate commerce and preference to persons and localities in intrastate commerce as against persons and localities in interstate commerce, the Interstate Commerce Commission, after an investigation undertaken on petition of the railroads, has ordered the railroads to remove the discrimination by establishing class rates on Georgia intrastate traffic not less than those maintained on corresponding interstate traffic to and from Georgia.

Graduated Tax Plan Called Unfair to Railroads

The idea of graduated corporation income tax plan proposed recently by President Roosevelt, which he is insisting shall be enacted before Congress adjourns, was described as particularly unjust as applied to railroads in a statement presented at the hearing before the House ways and means committee on the proposed legislation on July 9 by R. V. Fletcher, vice-president and general counsel of the Association of American Railroads. Mr. Fletcher told the committee that the idea of taxing the larger companies having a larger net income a higher percentage than smaller companies was inconsistent with the governmental policy to promote consolidation and co-ordination of railroads into a limited number of systems, which was expressed in the transportation act of 1920 and has been constantly reiterated since by government authorities. It would penalize companies that have in the past or that may in the future comply with the government policy, he said, quoting from various statements on this subject made by President Roosevelt and his predecessors.

On the basis of the rates proposed in a tentative draft of the revenue bill, ranging from 10 per cent on the smallest net incomes up to 17½ per cent, Mr. Fletcher presented tables applying these rates to the Class I railroads that accrued federal income taxes in 1930 and 1934, showing the increase in taxation as compared with the present rate of 13¾ per cent. The 1930 table showed an increase of $12,741,844, or 24.5 per cent, while the 1934 table showed that the 47 Class I roads paying federal income taxes in that year would pay an increase of 23.8 per cent, or from $15,054,847 to $18,634,760. The Chesapeake & Ohio was the only road in the list which would pay the 17½ per cent rate, proposed for net incomes above $20,000,000. It paid tax in 1934 on a net of $32,182,000, which amounted to $4,425,000, whereas the tax at the proposed increased rate would be $5,632,000. Nine roads in the list having the smallest net incomes, less than $10,000, would have their taxes reduced slightly.

Mr. Fletcher also argued against the principle of the graduated tax plan as applied to corporations, pointing out that under it the small stockholder of a large company paying a high rate of tax would be penalized as compared with the investor of a like amount in a small company.

The 1934 table follows:

Estimated Federal Income Tax at Rates Proposed June 25, 1935, for Those Class I Carriers Paying Federal Income Taxes in 1934

Road	Estimated income on which tax was paid *	Federal income tax accrued 1934	Estimated Federal tax at proposed rates: Rate	Estimated Federal tax at proposed rates: Tax
Chesapeake & Ohio	$32,182,000	$4,425,000	17½	$5,632,000
Norfolk & Western	19,818,000	2,725,000	17	3,369,000
Pennsylvania Railroad	19,392,000	2,666,352	17	3,297,000
Reading	7,035,000	967,315	17	1,196,000
Union Pacific	6,565,000	902,681	17	1,116,000
Delaware, Lackawanna & Western	3,019,000	415,142	17	513,000
Pittsburgh & Lake Erie	2,729,000	375,241	17	464,000
Virginian	2,421,000	332,898	17	412,000
Duluth, Missabe & Northern	1,433,000	196,980	17	244,000
Detroit, Toledo & Ironton	1,391,000	191,258	17	236,000
New York, New Haven & Hartford	1,309,000	180,000	17	223,000
Wheeling & Lake Erie	1,184,000	162,774	17	201,000
Cincinnati, New Orleans & Texas Pacific	996,000	137,000	16	159,000
Bangor & Aroostook	996,000	136,943	16	159,000
Montour	882,000	121,340	16	141,000
Detroit & Toledo Shore Line	868,000	119,412	16	139,000
Atchison, Topeka & Santa Fe	865,000	119,000	16	138,000
Pennsylvania-Reading Seashore Lines	782,000	107,490	16	125,000
Cambria & Indiana	625,000	85,946	16	100,000
Oregon Short Line	611,000	84,000	16	98,000
Baltimore & Ohio	563,000	77,373	16	90,000
Bessemer & Lake Erie	447,000	61,500	16	72,000
New York, Ontario & Western	415,000	57,000	16	66,000
Texas & Pacific	400,000	55,000	16	64,000
Lake Superior & Ishpeming	319,000	43,815	16	51,000
Boston & Maine	263,000	36,225	15	39,000
Monongahela	257,000	35,385	15	39,000
Louisiana & Arkansas	240,000	33,000	15	36,000
Toledo, Peoria & Western	221,000	30,346	15	33,000
St. Joseph & Grand Island	202,000	27,814	15	30,000
Clinchfield	200,000	27,545	15	30,000
Kansas, Oklahoma & Gulf	160,000	22,000	15	24,000
Chicago & Illinois Midland	139,000	19,092	15	21,000
Lehigh & Hudson River	120,000	16,447	15	18,000
Erie (including Chicago & Erie)	96,000	13,210	14	13,400
Lehigh & New England	77,000	10,613	14	10,800
Columbus & Greenville	65,000	8,962	14	9,100
Nevada Northern	44,000	6,100	14	6,200
Tennessee Central	37,000	5,096	13	4,800
Charleston & Western Carolina	33,000	4,505	13	4,300
St. Louis-Southwestern Lines	29,000	4,025	13	3,800
Richmond, Fredericksburg & Potomac	28,000	3,900	13	3,600
Elgin, Joliet & Eastern	15,000	2,060	13	2,000
New York Connecting	7,000	950	12	840
Missouri-Illinois	6,000	870	12	720
Lehigh Valley	1,000	126	10	100
Utah	1,000	116	10	100
Total		$15,054,847		$18,634,760
Per cent increase over tax of 1934				23.8%

* Estimated by assuming Federal tax accruals to have been 13¾ per cent of income.

Railroad Employment in June

Class I railroads have reported to the Interstate Commerce Commission a total of 1,014,848 employees in service as of the middle of the month of June, an increase of 1.79 per cent as compared with the number in May but a decrease of 3.75 per cent as compared with the number in June, 1934. The employees in train and engine service showed a slight reduction as compared with the number in May.

Kennedy Succeeds Kirk as Eastern Regional Director

M. C. Kennedy, formerly executive secretary of the Eastern Regional Co-ordinating Committee, Federal Co-ordinator of Transportation, has been appointed eastern regional director, with headquarters at New York City. Mr. Kennedy succeeds W. F. Kirk, who resigned to accept a position as assistant general manager of the Missouri Pacific, as reported in the *Railway Age* of June 22.

Brotherhood Authorized to Represent Pullman Employees

The National Mediation Board has certified that the Brotherhood of Sleeping Car Porters has been duly designated and authorized to represent the porters and maids employed by the Pullman Company. The certification was based on an election in which 5,931 votes were cast for this organization and 1,422 for the Pullman Porters' and Maids' Protective Association.

U. S. Travel Commission Proposed

The Senate commerce committee has made a favorable report to the Senate on a bill, S. 33, providing for the creation of the United States Travel Commission to encourage travel to and within the United States by citizens of foreign countries. The purpose is to set up a commission that shall assemble, prepare, display, and distribute informative material concerning places of interest, means of transportation, hotel facilities, etc., and to co-operate with any governmental or private agency, when so requested, for the purpose of encouraging travel. Senator Copeland, chairman of the committee, expressed the opinion in the report that it is of equal if not greater importance to encourage travel in America by Americans.

W. L. Batt Nominated President A. S. M. E.

The Nominating Committee of the American Society of Mechanical Engineers announced at the Spring Meeting of the Society held at Cincinnati, Ohio, the following nominees for 1936: President, Dr. W. L. Batt, president, SKF Industries, Inc., Philadelphia; vice-presidents, A. D. Bailey, superintendent, generating stations, Commonwealth Edison Company, Chicago; Prof. J. A. Hunter, University of Colorado, Boulder, Colo; Dean R. L. Sackett, Pennsylvania State College, State College, Pa., and W. A. Shoudy, of Orrok, Myers & Shoudy, consulting engineers, New York; managers, W. L. Dudley, vice-president, Western Blower Company; W. C. Lindemann, secretary, A. J. Lindemann & Hoverson Company, and J. W. Parker, chief engineer, Detroit Edison Company.

Steam Train Pinch Hits for Zephyr

A four-car, air-conditioned steam train, drawn by a light Pacific 4-6-2 type locomotive taken from the extra board, was operated by the Burlington between Chicago and the Twin Cities on July 5 and 6 in place of one of the Twin Zephyrs which was taken out of service when a roller bearing on the front truck burned out. The steam train was run on the same schedule as the Zephyr, but was handicapped by four slow orders due to soft track caused by heavy rains. Two engines were used on the run, the change being made at North LaCrosse, Wis. On the first day, the train was 22 min. late at Minneapolis, while on the return trip it was only 8 min. late. On the second day, it was 25 min. late at Minneapolis and 6 min. late into Chicago.

The Zephyr was out of service for the two days, due to delay in securing a new bearing. The actual time consumed in changing the bearing was two hours.

G. M. & N. "Rebel" on Exhibition Tour of East and South

The Gulf, Mobile & Northern's streamlined Diesel-electric train—the Rebel—set out this week on a 12-day exhibition tour during the course of which it will make stops at 24 cities and towns in the East and South. This tour is being made by the second of the two "Rebel" trains which were described in the *Railway Age* of June 15 and which will handle the G. M. & N. through passenger service between Jackson, Tenn., and New Orleans, La.

The train left the Berwick, Pa., plant of its builder—the American Car & Foundry Company—on the morning of July 7 and proceeded via the Delaware, Lackawanna & Western to the latter's Hoboken, N. J., terminal, where it was on exhibition in the afternoon of July 7 and throughout the day on July 8. Its subsequent schedule on the exhibition tour follows: July 9, Kearny Junction, N. J., Newark, Philadelphia, Pa., Wilmington, Del., Baltimore, Md., Washington, D. C.; July 10, Washington, Richmond, Va.; July 11, Durham, N. C., Hamlet, Monroe; July 12, Chester, S. C., Clinton, Greenwood, Abbeville; July 13, Elberton, Ga., Athens, Winder, Lawrenceville; July 14 and 15, Atlanta; July 16, Rockmart, Cedartown, Piedmont, Ala.; July 17 and 18, Birmingham. On July 19 the Rebel will leave Birmingham via the St. Louis-San Francisco for delivery to the G. M. & N. at New Albany, Miss.

Switching Order Injunction Sought

Suits to enjoin the enforcement of supplemental orders of the Interstate Commerce Commission in the "car spotting case," Ex Parte 104, Part 2, were filed in the federal district courts in New Orleans, La., and Peoria, Ill., on July 8, both suits being the outgrowth of the commission's refusal to grant a stay of the order directing various railroads to cease making allowances to specific industries that have been doing their own plant switching operations. The petition in the suit filed in New Orleans, in behalf of the Standard Oil Company of Louisiana, will be heard by a three-judge court on July 13. The Peoria suit was filed in behalf of the Keystone Steel & Wire Company. Both companies had previously petitioned the commission for postponement of the effective date beyond July 15. A petition for rehearing and reargument was filed with the commission on July 6 by the Standard Company and similar action was taken by Keystone on July 8.

British Government to Guarantee Railway Electrification Loan

The British government has agreed to guarantee five-year loans totaling £35,000,000 for railway electrification in the London area, according to a recent announcement in the House of Commons by Neville Chamberlain, Chancellor of the Exchequer. Arrangements for the proposed electrification program have been concluded between the government and the Standing Joint Committee of the London

Photo by T. T. Taber

The "Rebel" on the D. L. & W., En Route from Berwick, Pa., to Hoboken, N. J., to Begin its Exhibition Tour

Passenger Transport Board and the main-line railways. The plan contemplates that the Transport Board, which operates traction services in the London area, the London & North Eastern and the Great Western will commence work immediately on the electrification improvements. The program will involve the building of approximately 12 miles of new subways, the electrification of 44 miles of suburban railway, the construction of additional main track and its electrification on 12½ miles of other suburban lines and the substitution of trolley buses for street cars on 148 route miles.

R. & L. Historical Society

The Railway and Locomotive Historical Society, Baker Library, Boston, Mass., has issued its bulletin No. 37, a pamphlet of 71 pages. Articles, profusely illustrated with locomotives, describe the Catskill Mountain railroads, which flourished in the latter part of the nineteenth century, and the Sandy River & Rangeley Lakes system, the well-known two-foot gage system in Maine, now nearly at the end of its career because of the automobile era. This system, like the Catskill Mountain system, was made up of a number of short lines originated at different times. The original two-foot line was the Billerica & Bedford, in Massachusetts, but that enterprise was so short-lived that its cars and engines, when put up for sale (1878), were available for use on the lines in Maine.

Other articles describe Boston & Maine locomotives and some New York Central locomotives of the Buchanan period, together with a portrait of William Buchanan, designer, whose career with the New York Central extended over 58 years.

Eastern Car Foreman's Association Annual Outing

A golf tournament and field events for non-golfers will be features of the Eastern Car Foreman's Association's third annual golf tournament and field day to be held on Thursday, July 18, at the Race Brook Country Club, New Haven, Conn. Also included on the program are dinner, a "grand mystery drawing for prizes" and bridge.

Eight prizes will be awarded in the golf tournament—one for low gross and another for low net in each of three handicap classes, a kickers' prize and another for low gross. Two prizes are to be awarded for each of several other events, including the putting contests for golfers and non-golfers, quoits and bridge.

The New York, New Haven & Hartford is offering for the event special one-day excursion rates from New York and Boston, Mass., the round-trip fares being, respectively, $2.90 and $6.95, including transportation to and from the outing grounds. Trains will leave New York 7:30 and 9:00 a. m., Eastern Standard Time; and Boston at 8:00 a. m.

F. H. Becherer is general chairman of the committees in charge of the outing; he will be assisted by two vice-chairmen—A. E. Calkins and R. Sonquist. Other committees, together with their respective chairmen, are as follows: General, F. C. Heinen; Reception, H. P. Cook; Golf, John Schlintz; Arrangements, J. P. Eagan; Publicity and Tickets, T. P. O'Brian; Boston Tickets, W. E. Cade, Jr.; Prizes, F. H. Reynolds; Quoits, G. B. Allison; Bridge, F. C. Dunham; Putting Greens, D. B. Carse, Jr.; Transportation, T. G. Case.

New Light-Weight Car on Swiss Railroads

The Swiss Federal Railroads have recently introduced a new type of light-weight, streamlined, electrically-propelled car designed to provide more frequent and faster passenger service. The car is 70.5 ft. in length and weighs 32 tons; it is air-conditioned and has a capacity for 70 passengers. Trial trips during May demonstrated that the vehicle could negotiate curves at a speed of from 70 to 80 kilometers per hour, while a maximum speed of 140 kilometers per hour was attained on straight stretches.

Prevention Better Than Cure

At Westfield, Mass., just before the fourth of July, 47 persons, 8 of them adults and 39 younger, were summoned to court by the Boston & Albany, charged with trespassing on the railroad property. In court, on the following day, it appeared that the accused were persons in the habit of crossing the track to go swimming in the Westfield river, this being their most convenient method of access. The railroad made no formal complaint of any accident or casualty, but presented a plea that the court should see that these (and all citizens) be warned of the danger of accidents, fatal or otherwise, from lack of foresight on the part of the swimmers.

The court imposed fines of $5 each on seven adults, but issued an order that, if no more complaints were entered by September 28, the fines should be remitted.

The juveniles were simply given a lecture on safety and on the seriousness of trespassing on railroad property.

U. P.-C. & N. W. Trains Serve Low-Cost Meals

Breakfast, luncheon and dinner on the "Los Angeles Limited," operated over the Chicago & North Western and the Union Pacific, at a cost of 90 cents for the three meals, is being featured by these railroads in an effort to satisfy the demands of travelers for inexpensive meals. The establishing of low cost meals on this transcontinental train is an outgrowth of the reception travelers have given to "select-your-price" meals introduced on dining cars at radically reduced prices some time ago. Passengers in coaches and tourist sleeping cars on the Los Angeles Limited may now have their meals served on a tray from a steam table in the coach, with a chef and a waiter from the dining car in attendance, at prices as low as 25 cents for breakfast, 30 cents for luncheon and 35 cents for dinner. A typical 25-cent breakfast includes scrambled eggs and two strips of bacon, rolls or bread, coffee or milk.

New and lower prices are now in effect also for coach-buffet meals on the Streamliner "City of Portland," including club breakfasts, plate dinners and a la carte service. Three breakfast combinations, in place of two, are offered at 25 cents, 35 cents and 50 cents. A special plate dinner is offered at night for 50 cents and includes such selections as salmon steak, potatoes, string beans, bread and butter, berry pie, coffee, tea, milk or Postum. In the a la carte service, coffee is now 5 cents and milk 5 cents. These prices are in effect in the coach-buffet only.

P. & S. Convention Program

The following program for the annual meeting of the Purchases and Stores Division, A. A. R., at the Palmer House, Chicago, on July 23 and 24, while still in tentative form pending final arrangements as to speakers, indicates the business which will be transacted.

Tuesday, July 23
10 A.M., Daylight Saving Time

Meeting called to order by chairman.
Invocation
Address
Communications
Appointment of committee on Resolutions and Memorials
Actions on minutes of 1932 meeting
Report of General committee
Address by Chairman George E. Scott
Report—Standard Material Classification
Report—Classification, Handling and Sale of Scrap
Report—General Reclamation
Report—Comparisons of Material Stock Reports and Material Store Expenses—Joint Committee on Material Store Expenses
Report—Forest Products
Report—Control of Purchased and Shop-Manufactured Stocks and Co-ordinating Procurement with Actual Needs
Report—Pricing and Inventory
Report—Purchasing Agents' Organization, Practices and Office Records
Report—Stationery and Printing
Report—Stores Department Fire Prevention

Wednesday, July 24
9:30 A.M., Daylight Saving Time

Address
Report—Simplification and Standardization of Stores Stocks
Report—Stores Department Safety Practices
Presentation of annual contest papers
Report—Purchasing, Storage and Distribution of Equipment and Supplies Used in Dining Cars, Hotels and Commissaries
Report—New Ideas and Economies
Report—Purchase of Special Devices and Commodity Purchases
Report—Exchange of Surplus Material
Report—Material Guarantees—General Practice as to Guarantees—Failure, Methods of Handling
Report—Stores Department Buildings and Facilities for Economical Handling of Materials

Waterway Bill Debated in Senate

Debate on S. 1632, the bill recommended by Co-ordinator Eastman to provide for regulation of waterway transportation by the Interstate Commerce Commission as revised by the Senate committee on interstate commerce, was begun in the Senate on July 3 and continued on July 7, after which it was temporarily laid aside for consideration of the public utility holding company bill without much open indication as to the extent of the opposition. The various committee amendments to the bill were adopted on the first day with little discussion and on July 7 Chairman Wheeler of the committee gave a detailed explanation of the provisions of the bill and of the changes made from Mr. Eastman's original recommendations. He said that many of the advocates of the bill were supporting it only on the theory that the bill providing for the reorganization of the Interstate Commerce Commission with separate divisions for each form of trans-

portation would also be passed, but that it seemed inadvisable to pass the latter bill first, although he proposed to press it for passage just as soon as the waterway bill was disposed of. He said the objection was that the Interstate Commerce Commission was now "railroad-minded."

Senator Copeland, chairman of the Senate commerce committee, was the principal opponent of the Eastman bill during the preliminary debate, basing his opposition largely on the charge that the commission is "railroad-minded," but, after Senator Clark, of Missouri, said he proposed to offer the commission bill as an amendment to the waterway bill, Senator Copeland said he thought that would be an improvement.

Senate Committee Hearings on Labor Bills

The sub-committee of the Senate committee on interstate commerce that has been holding hearings for several weeks on the series of bills proposed by the Railway Labor Executives' Association concluded them on Wednesday, but another sub-committee, headed by Senator Brown, of New Hampshire, was to begin hearings on Thursday on the new bills introduced by Senator Wagner to provide for a pension system for railroad employees. The other bills have been heard by a sub-committee headed by Senator Lonergan, of Connecticut, who has been the only member present much of the time, although Senators Shipstead and Bone have been present part of the time. Following the hearings on S. 1562, the hours of service bill, the sub-committee has heard testimony of representatives of the labor organizations in support of and of railroad officers in opposition to S. 2511, the bill to provide for the inspection and investigation of conditions prevailing in train-dispatching offices, and S. 1288, the bill to give the Interstate Commerce Commission jurisdiction over the inspection and maintenance of railroad signal systems. Hearings on the six-hour day bill and the dismissal compensation bill have been indefinitely postponed.

I. C. Overnight Service on Fruits and Vegetables

The plan of the Illinois Central's overnight express service on fruits and vegetables moving from southern Illinois to Chicago (mentioned briefly in the *Railway Age* of July 6) has been worked out in co-operation with the Railway Express Agency and local shipping associations. The service was established in response to shippers' demands for dependable, responsible and safe overnight transportation by rail to Chicago at rates which will compete with the trucks. The schedule utilized is that of No. 26, a passenger train which passes the principal shipping points —Mounds, Anna and Cobden—at 3:30, 4:35 and 4:49 p. m., respectively, and reaches Chicago at 4 a. m. This enables crops picked in the extreme southern part of Illinois one day to be marketed in Chicago the next morning. The rates are less than those existing for express service and they are available for both carload and l.c.l. movements. Shipments are handled either with or without refrigeration. If the latter service is desired, the usual charge is made.

House Committee Considers Transportation Legislation

Faced with prospects that Congress may remain in session some weeks longer, because of the President's insistence on tax legislation at this session, the House committee on interstate and foreign commerce met on July 10 to consider its program of transportation legislation. The committee has been engaged for several weeks on the utility bill, while various transportation bills before it have been referred to sub-committees. The committee received a report from the sub-committee which has been considering the motor carrier bill, S. 1629, and expected to consider on the following day the considerably emasculated bill recommended by the sub-committee in comparison with the bill passed by the Senate. After determining its course on this bill the committee expected to take up a report from another sub-committee recommending passage of the Pettengill bill to repeal the long-and-short-haul clause, with an amendment. Chairman Rayburn was authorized to appoint a sub-committee to consider the various bills on the program of the Railway Labor Executives' Association, on which hearings have been held before a Senate sub-committee, together with the new railroad pension bill. The committee also authorized favorable reports on the bill passed by the Senate to include "ports" within the definition of communities and localities in the anti-discrimination section of the interstate commerce act, on the resolution for the appointment of a commission to study the subject of railroad pensions, and on the bill providing for the creation of a tourist travel division in the Department of Commerce.

Disastrous Floods in Central New York

Long continued rainstorms, flooding many rivers, caused great damage in southern central New York on Sunday, Monday and Tuesday, July 7, 8 and 9, and did damage estimated at many millions of dollars; and drownings and other fatal accidents, listed by the Associated Press, totaled 45 or more. Several railroads were seriously affected, with important traffic suspended for 24 hours, but the carriers' losses were relatively small as compared with the damage to highways and highway bridges and the flooding of dwellings, driving hundreds of families from their homes. A press summary, printed on Wednesday, listed a dozen towns in which there was serious distress: Hornell, Ithaca, Watkins Glen, Hammondsport, Walton, Bath, Owego, Binghamton, Geneva, Oneonta, Delhi and Trumansburg.

Hornell, an important division point on the Erie, had 2,000 homes damaged and suffered serious disturbance of food supply. The Erie yards, including a large enginehouse, were flooded, causing a complete suspension of train movement. The main line of the Erie was broken by washouts at numerous places between Hornell and Corning, a distance of 40 miles; several bridge abutments were undermined. The Erie line, between Painted Post and Kanona, suffered seriously from washouts.

The Delaware, Lackawanna & Western had bridges washed away at Bath and Painted Post, and suffered serious damage on the Syracuse and Utica branches. Officers of the road expected to have passenger traffic fully restored by Wednesday night or Thursday. Lehigh Valley trains had to be re-routed around Ithaca, throughout Monday, Tuesday and Wednesday, but through trains were expected to resume regular runs on Thursday night. During the blockade, passengers were carried to and from Sayre, Pa., by automobile.

The New York Central had no unusual trouble, except at two points. On the West Shore (freight line), near Canajoharie, there was a bad washout, and at Watkins Glen, on the Pennsylvania division, the central pier or tower of the high bridge over Watkins Gorge was carried out.

I. C. C. Seeks Decrease in Transit Limits on Forest Products

Recently the Interstate Commerce Commission denied an application for short notice on behalf of carriers in western trunk line territory, in which it was proposed to extend for an additional six months the transit time limit of expense bills covering forest products, subject to a maximum or over-all time limit of not to exceed 4½ years. After being amended so as to change the maximum time limit from 4½ to 4 years, and upon petitions from various affected interests, the application was reconsidered by the entire commission on July 1 and was granted.

In giving its approval to this application the commission instructed W. V. Hardie, director of its Bureau of Traffic, to take up the subject of time limit extensions with the carriers with a view to bringing about a gradual decrease in abnormally long time limits covering various transit operations, until they are again brought within reasonable limits.

Mr. Hardie has directed a letter to the chairmen of the regional traffic organizations of the carriers saying that without doubt the expiration of extensions that are now available will find many of the transit operators with a quantity of older tonnage on hand, and in all probability they will again seek relief. "Assuming justification for further relief and the carriers' willingness to grant it," he said, "the commission is of the opinion that the carriers should as soon as can be done with justness come to a normal maximum time limit not in excess of three years, as that should be sufficient to meet the needs of any except the most extreme emergency. In this connection it should be borne in mind that the statutory period of limitation for the collection of charges is three years. To determine whether or not there is justification in fact for future extensions, the inspection bureaus or other agencies should thoroughly inspect the transit records and make certain that transit operators are doing everything reasonably possible toward clearing their stocks of tonnage about to expire, especially very old tonnage. It is the thought that there

should be a gradual stepping down of abnormally long maximum limits now in effect. Such limits may be changed by cutting down the length of extensions, perhaps six months or so at a time, until finally the time limits for all transit may revert back to normal.

"The commission realizes the difficult situation in which many transit operators have been placed arising out of the depression, and desires to aid them in avoiding unnecessary loss. But shippers must have regard for the necessity of using reasonable efforts to avoid the accumulation of excessively old billing. We express no definite opinion as to the maximum limit that would be proper as to particular commodities or under particular circumstances.

"Attention is also called to the necessity of anticipating necessary extensions seasonably so that in most cases they may be published on statutory notice."

E. J. & E. Wins Federal Relationship Case

Industrial railroads affiliated with manufacturing companies were upheld in their right of legal relationship by the district court at Chicago in an opinion handed down on July 2 by Federal Judge Woodward, finding for the Elgin, Joliet & Eastern, a subsidiary of the United States Steel Corporation, in an action initiated by the United States government two years ago. The opinion held that the railway company acted freely in its management and operation and without domination or unlawful influence on the part of its owner, the Steel Corporation.

The government's action was predicated on that clause of the Interstate Commerce Act which makes it unlawful for any railroad to transport in interstate commerce commodities manufactured or owned by it or in which it has an interest. Under this prohibition the government sought to show domination of the railroad by another corporation and endeavored to enjoin the railroad from carrying in interstate commerce the products of the United States Steel Corporation or its subsidiaries, including the Illinois Steel Company.

The court, in its findings, agreed with the government attorneys in their allegations that the Outer Belt Line was a wholly-owned subsidiary of the Steel Corporation, doing the bulk of its business with other subsidiaries of the corporation located in the Chicago area, including the Illinois Steel Company, the American Bridge Company, the American Sheet & Tin Plate Company, the American Steel & Wire Company, the National Tube Company, the Universal Atlas Cement Company, the United States Fuel Company and the United States Coal & Coke Company. In its decision, however, the court held that there were elements in this case which saved the Outer Belt Line from coming within the statutory prohibitions. "The existence and free functioning of the defendant as a common carrier and a separate corporate entity was not destroyed or obstructed or interfered with by the United States Steel Corporation. In the conduct of its transportation business, it did not discriminate against or in favor of any of its patrons in services or in charges, but treated all alike."

The court held that ownership of the railroad by the holding company had not resulted in collusive rates or favoritism, that the relationship between the corporations was that of corporation and stockholder and that no control over the railway was maintained by the corporation. The opinion added that "no evidence was submitted to warrant the inference that the railway and the other subsidiaries are under the control of the steel corporation in the sense that the defendant and other subsidiaries are mere departments, branches, adjuncts and instrumentalities of the corporation."

The suit was begun five years ago and hearings were concluded in January, 1934. The government sought to force the United States Steel Corporation either to sell the E. J. & E. or to discontinue shipping its products over the line, but the court found that the railway was not dominated by the corporation and could continue to operate as its subsidiary.

Equipment and Supplies

LOCOMOTIVES

THE CHESAPEAKE & OHIO, reported in the *Railway Age* of June 8 as inquiring for five passenger locomotives of the 4-8-4 type, has ordered this equipment from the Lima Locomotive Works, Inc.

FREIGHT CARS

THE NORFOLK SOUTHERN is now inquiring for 500 box cars of 40-tons' capacity. As announced in the *Railway Age* of June 22, the P. W. A. allotted this company $1,040,000 toward the purchase of this equipment.

PASSENGER CARS

THE BOARD OF TRANSPORTATION, CITY OF NEW YORK, has awarded contracts for 500 steel passenger cars and extra trucks for subway service as follows: To the American Car & Foundry Company, 250 cars, 5 extra motor trucks and 5 extra trailer trucks to cost $9,613,400; to the Pressed Steel Car Company, 250 cars, 5 extra motor trucks and 5 extra trailer trucks at the same price, with the stipulation that the Pressed Steel must assign 150 cars and the extra trucks of this order to the Pullman-Standard Car Manufacturing Company. The Pressed Steel is to receive $3,824,000 for the 100 cars it will build and the Pullman-Standard Car Manufacturing Company will receive $5,789,400. This award is subject to the approval of the Board of Estimate and Apportionment. The award has been made to three builders so as to expedite delivery of the entire 500 cars. Delivery of the first lot of cars must commence within six months from date of delivery of contract. The bids for this equipment were reported in the *Railway Age* of June 1, page 868.

Supply Trade

The Chicago, Milwaukee, St. Paul & Pacific has extended its contract with **Sperry Rail Service**, Brooklyn, N. Y., to include 1,900 additional miles, thus bringing to approximately 3,500 the mileage of rail testing with the Sperry detector car.

William S. Morris, representative of the **American Locomotive Company**, with headquarters at Chicago, has been promoted to district sales manager in charge of the Chicago office. He was

Moffett Studio

William S. Morris

born on March 21, 1900, at Richmond, Va., and graduated from the U. S. Naval Academy at Annapolis in 1922. He entered the employ of the American Locomotive Company in October of that year as a special apprentice at the Schenectady Works. In 1925, he was transferred to the sales department of the accessories division, with headquarters at New York, and in 1926 was appointed sales representative at Chicago, which position he has held until his recent promotion.

Albert F. Reichmann, who has been elected vice-president of the **American Bridge Company**, with headquarters at Chicago, was born on January 16, 1868, at Dubuque, Iowa, and received his engineering education at Grossherzoglich Badische Technische Hochschule, Karlsruhe, Germany. From October, 1890 to April, 1891, he was a draftsman for the Lassig Bridge & Iron Works, Chicago, resigning on the latter date to enter the employ of the American Bridge Works as a draftsman and computer. In November, 1894, he became assistant engineer in charge of the bridge and building department of the Chicago, Milwaukee & St. Paul, which position he held until 1901, when he reentered the employ of the American Bridge Company as division engineer in charge of all engineering in its western division. On April 1, 1931, he was appointed chief engineer, with headquarters at Chicago, which position he has held until his recent election. In his engineering capacity, he has supervised the design of the structural steel entering into ore docks at Duluth, Minn., and Two Harbors; of the Willamete River bridge at

Portland, Ore.; the Thebes bridge over the Mississippi river; the A. T. & S. F. bridge across the Mississippi river at Ft. Madison, Iowa; the Carquinez Straits bridge of the S. P. in California; the Vicksburg bridge, the Cairo bridge and

Albert F. Reichmann

the Chicago Union station. He is a member of the American Society of Civil Engineers and served as a director from 1929 to 1931. He is also a member of the Western Society of Engineers and served as its treasurer from 1906 to 1913 and as its president from 1913 to 1914.

Construction

CHICAGO, BURLINGTON & QUINCY.—A contract for the construction of a 900-ton commercial coal pocket at East St. Louis, Ill., has been awarded to the William MacDonald Construction Company, St. Louis, Mo., at a cost of about $70,000. This pocket, which will be erected on Front street near Winter street, will be of concrete and timber construction.

FLORIDA EAST COAST.—This company has work under way on the replacement of bascule draw span and repairs to substructure and approaches at Jupiter, Fla., to cost about $46,000. Contract for the structural steel and machinery for the bascule span, including erection, has been let to the McClintic-Marshall Corporation and contract for repairs to the substructure has been let to the W. S. Lockman Construction Company, West Palm Beach, Fla.

GULF, COLORADO & SANTA FE.—The Texas State Highway Department has awarded a contract to Allhands & Davis, Dallas, Tex., for the construction of an underpass to carry Highway 74 under the tracks of this company in Miles county, at a cost of about $60,000.

NEW YORK CENTRAL.—A contract has been given to William M. Ballard, Inc., Syracuse, N. Y., to construct a passenger station, baggage elevator enclosures, stair enclosures and doors in passenger subway, located on the north side of Erie boulevard between Crouse avenue and Catherine street at Syracuse, N. Y. See *Railway Age*, June 8, page 898.

NEW YORK, CHICAGO & ST. LOUIS.—A contract has been awarded to the Ferro Construction Company, Chicago, for the erection of two deck plate-girder bridges, one at Albany, Ind., and the other at Muncie. The steel for these bridges, which will amount to a total of about 130 tons, is being fabricated by the Ft. Pitt Bridge Works, Pittsburgh, Pa.

NEW YORK, NEW HAVEN & HARTFORD.—A contract has been given to the Tredennick-Billings Company at $13,550 for platforms, runways, material storage building, etc., in connection with facilities to cost about $25,300, for servicing air-conditioned passenger equipment at Boston, Mass.

Financial

CHICAGO & NORTH WESTERN.—*R. F. C. Loan Application Withdrawn.*—The Interstate Commerce Commission has dismissed this road's application of February 27 for approval of a $1,500,000 loan from the Reconstruction Finance Corporation, the road having withdrawn its application to the lending agency.

GALVESTON, HOUSTON & HENDERSON.—*R. F. C. Loan Extension.*—The Interstate Commerce Commission, finding that this road is not in need of financial re-organization, has approved its application for the extension to April 1, 1938, of a $1,061,000 Reconstruction Finance Corporation loan which matures on July 14.

ILLINOIS CENTRAL.—*R. F. C. Loan Extension.*—The Interstate Commerce Commission, finding this road not to be in need of financial reorganization at this time, has approved an extension for three years of a Reconstruction Finance Corporation loan for $3,783,000, which matures on July 22.

KENTUCKY & INDIANA TERMINAL.—*Bonds.*—Granbery, Safford & Co., of New York, and Whiting, Weeks & Knowles, Inc., of Boston, Mass., have sold a $651,000 issue of this road's first mortgage 4½ per cent bonds, due 1961. The bonds were offered at 99½ and accrued interest. Proceeds from the sale will be used for the payment of equipment trust notes and bank loans, with the remainder to be applied to the payment of advances from the Baltimore & Ohio and the Southern.

MISSOURI PACIFIC.—*Abandonment.*—The trustees have applied to the Interstate Commerce Commission for authority to abandon a branch line from Ozark Junction, Ark., to Hartman Junction, 12.27 miles.

NEW YORK CENTRAL.—*Bonds of Toledo & Ohio Central.*—This road has been authorized by the Interstate Commerce Commission to assume obligation and liability as guarantor of an issue of $12,500,000 of Toledo & Ohio Central refunding and improvement mortgage bonds, series A, which the latter has been authorized to issue and deliver to the N. Y. C. Of the proceeds of the issue, $7,500,000 will be used to reimburse the Toledo & Ohio Central in connection with the payment of matured and maturing bonds; the remaining $5,000,000 will reimburse the N. Y. C. for expenditures on T. & O. C. additions and betterments. A condition imposed stipulates that the $7,500,000 be used only for the refunding proposed and that the remaining proceeds be set aside in a separate fund and used only to retire outstanding indebtedness of the New York Central System maturing during 1936.

NEW YORK, NEW HAVEN & HARTFORD.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Pine Plains, N. Y., to Shekomeko, 5.1 miles.

TENNESSEE CENTRAL.—*Bonds.*—The Interstate Commerce Commission has modified its order of August 12, 1932, to permit this road to pledge and repledge from time to time to January 30, 1937, not exceeding $120,000 of its 6 per cent first mortgage bonds, series A, as collateral security for notes.

TIONESTA VALLEY.—*Abandonment Application Withdrawn.*—The joint application of this road and its lessor, the Clarion River, for Interstate Commerce Commission permission to abandon the line of the latter, has been withdrawn.

URSINA & NORTH FORK.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Humbert, Pa., to Ursina, 4.5 miles.

Average Prices of Stocks and of Bonds

	July 9	Last week	Last year
Average price of 20 representative railway stocks..	33.72	33.47	42.65
Average price of 20 representative railway bonds..	75.11	75.33	77.84

Dividends Declared

Atchison, Topeka & Santa Fe.—$2.00, payable September 3 to holders of record July 31.

Carolina, Clinchfield & Ohio.—$1.00, quarterly; Stamped Certificates, $1.25, both payable July 20 to holders of record July 10.

Chicago, Burlington & Quincy.—No action taken.

Lehigh & Hudson River.—$1.00, quarterly, payable June 29 to holders of record June 20.

Louisiana & Missouri River.—7 Per Cent Guaranteed Preferred, $3.50, semi-annually, payable August 1 to holders of record July 17.

North Carolina.—7 Per Cent Guaranteed, $3.50, semi-annually, payable August 1 to holders of record July 20.

Norfolk & Western.—$2.00, quarterly, payable September 19 to holders of record August 31; Adjustable Preferred, $1.00, quarterly, payable August 19 to holders of record July 31.

Paterson & Hudson River.—$1.75, semi-annually, payable July 1 to holders of record June 26.

Reading Company.—50c, quarterly, payable August 8 to holders of record July 11; 1st Preferred, 50c, quarterly, payable September 12 to holders of record August 22; 2nd Preferred, 50c, quarterly, payable October 10 to holders of record September 19.

St. Louis, Rocky Mountain & Pacific.—25c, payable July 20 to holders of record July 5.

Southwestern R. R. of Georgia.—5 Per Cent Guaranteed Common, $2.50, payable July 1 to holders of record June 21.

Virginian.—Preferred, $1.50 quarterly, payable August 1 to holders of record July 13.

West Jersey & Seashore.—$1.50, semi-annually, payable January 1 to holders of record December 14.

Railway Officers

EXECUTIVE

Effective July 1 **Eduardo Suarez** was elected chairman of the board of directors of the National Railways of Mexico, with headquarters at Mexico, D. F., succeeding **N. Bassols. Antonio Madrazo** has been elected executive president at Mexico, D. F., succeeding **M. Cabrera.**

E. M. Whittle, general manager of Western departments of the Railway Express Agency, with headquarters at Los Angeles, Cal., effective July 1 has been elected vice-president of Western departments, with headquarters at San Francisco, Cal., succeeding **W. A. Benson,** who has been sent to New York as assistant to the vice-president in charge of accounts. **M. Thompson,** superintendent at Los Angeles, has been appointed general manager, with the same headquarters, to succeed Mr. Whittle.

FINANCIAL, LEGAL AND ACCOUNTING

E. Bergelt, assistant auditor on the Southern, has been appointed auditor, with headquarters as before at Cincinnati, Ohio, succeeding **D. E. Driscoll.**

H. G. Byrne, local treasurer on the Canadian Pacific, with headquarters at Vancouver, B. C., has been transferred to Winnipeg, Man., to succeed **H. W. Sweeney**, who has retired.

W. L. Linnehan, auditor of car service accounts of the Chicago, Rock Island & Pacific, with headquarters at Chicago, has been appointed also auditor of station accounts, succeeding **O. L. Beck,** deceased.

A. F. Dodd, assistant treasurer of the Denver & Salt Lake, has been elected treasurer, with headquarters as before at Denver, Colo., succeeding **Lawrence C. Phipps, Jr.,** who resigned on December 21, 1934.

R. G. Hillebrand, an attorney for the Southern Pacific, with headquarters at San Francisco, Cal., has been appointed assistant secretary, with the same headquarters, succeeding **G. L. King,** who has retired after more than 61 years of service with this company.

H. S. Anderson, judge of the City Court at Charleston, Ill., who has held court as a circuit judge in Cook County, Ill., at times during the last several years, has been appointed to the newly created position of assistant general solicitor of the Pullman Company, at Chicago.

J. F. Morris, assistant general auditor of the Denver & Rio Grande Western, has been appointed general auditor, with headquarters as before at Denver, Colo., succeeding **Edward R. Dickenson,** deceased. **D. A. Barton,** auditor of freight receipts, has been appointed auditor of freight and passenger receipts.

OPERATING

R. R. Unzicker, who served as acting superintendent of transportation for the Southern Pacific Lines in Texas and Louisiana during the absence of O. C. Castle, has been appointed assistant superintendent of transportation.

Grover C. Byers, formerly a division superintendent on the Missouri-Kansas-Texas, has been appointed general manager of the Green Bay & Western, with headquarters at Green Bay, Wis., succeeding **Charles H. Smith,** vice-president and general manager, who has been appointed assistant to the president.

W. A. Kraemer, assistant superintendent of the Wisconsin division of the Chicago & North Western, with headquarters at Chicago, has been promoted to superintendent of the Galena division, with the same headquarters, to succeed **L. A. Clapp,** resigned, and has been succeeded by **W. S. Johnston,** trainmaster of the Wisconsin division, with headquarters at Chicago, who in turn has been succeeded by **O. G. Schwarz,** chief train dispatcher of the Wisconsin division, with headquarters at Chicago.

Joseph F. Davis, acting superintendent of the Arkansas division of the Missouri Pacific, who has been appointed superintendent of the same division, with headquarters at Little Rock, Ark., as noted in the *Railway Age* of June 22, was born on April 25, 1878, at Brinkley, Ark. He entered railway service in 1897 as a maintenance worker on the St. Louis Southwestern (Cotton Belt), serving as a trackman, track foreman, extra gang foreman and brakeman until 1903. In that year Mr. Davis entered the service of the Missouri Pacific as an extra gang foreman, with headquarters at Little Rock, serving in that capacity until 1906 when he was advanced to roadmaster. Following thirteen years service as a roadmaster he was promoted to general roadmaster, with headquarters at McGehee, Ark. From 1920 to June 1, 1926, Mr. Davis served as division engineer at Little Rock and on June 1, 1926, he was promoted to assistant superintendent, which position he held until August 1, 1928, when he was appointed superintendent of the Omaha division, with headquarters at Falls City, Neb. In May, 1933, Mr. Davis was appointed district engineer at Little Rock and in June, 1934, he was made acting superintendent of the Arkansas division, with the same headquarters where he served until his recent appointment.

R. J. McDermott, assistant to the general superintendent of transportation of the Missouri Pacific, who has been appointed assistant general superintendent of transportation, with headquarters at St. Louis, Mo., as noted in the *Railway Age* of June 22, was born on October 6, 1893, at St. Louis and entered railway service with the Missouri Pacific on June 1, 1908, serving as a messenger-clerk in the yard office and car accountant's office until November 11, 1917. From that date until September 30, 1918, Mr. McDermott served as a clerk in various departments. On October 1, 1918, he was promoted to freight car distributor and on January 3, 1920, he was appointed traveling car agent. On July 1, 1923, Mr. McDermott was further advanced to chief freight car distributor and on August 11, 1924 he was appointed chief clerk in the operating-transportation department. From October 16, 1926, to April 30, 1929, he served as a supervisor, then being promoted to assistant to the general superintendent of transportation. Mr. McDermott was holding the latter position at the time of his recent appointment as assistant general superintendent of transportation.

R. J. McDermott

TRAFFIC

L. L. Doss, assistant general freight agent for the Atlantic Coast Line, with headquarters at Wilmington, N. C., has been appointed general freight agent, with the same headquarters.

Earl J. Hyett, who has been connected with the office of the vice-president in charge of traffic of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, has been appointed to the newly-created position of assistant to the freight traffic manager, with the same headquarters.

W. V. Carroll, export freight agent of the New York Central, with headquarters at Chicago, has retired after 37 years of service, and has been succeeded by **W. P. Hansen,** general agent in the freight department of the Cleveland, Cincinnati, Chicago & St. Louis, with headquarters at Chicago.

W. A. Murphy, chief clerk to the assistant freight traffic manager of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, has been appointed general agent, with headquarters at Denver, Colo., succeeding **A. A. Wilson,** who has been transferred to Chicago, to replace **T. P. Casey,** who has resigned to engage in other business.

W. C. Sommers, division freight agent for the Pennsylvania at Buffalo, N. Y., has been appointed to the staff of the freight traffic manager at Philadelphia,

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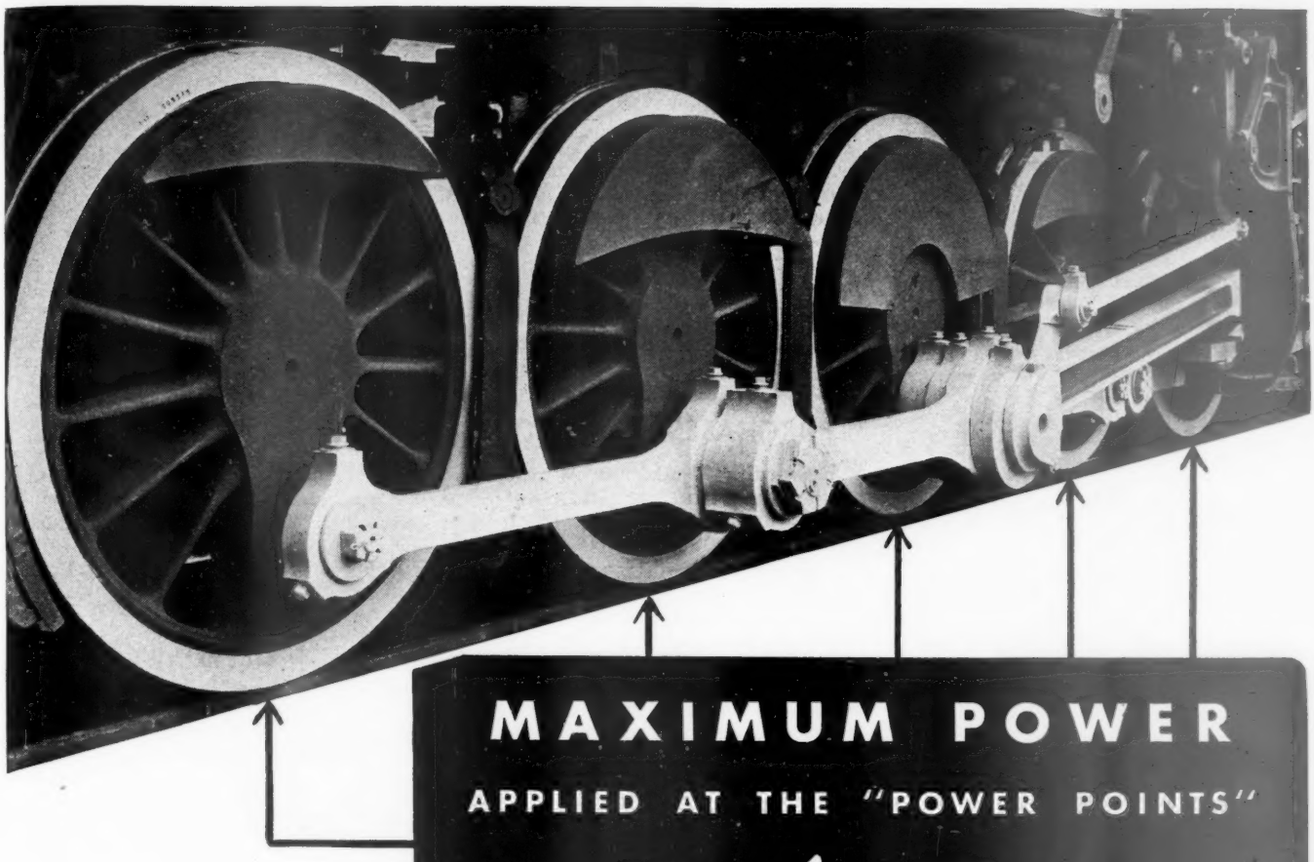

MAXIMUM POWER

APPLIED AT THE "POWER POINTS"

Makes Money

The job of the locomotive designer is to apply the maximum possible horsepower to the "power points". » » » How well he is succeeding is shown by the 1200 horsepower per axle of modern locomotives compared with the 600 horsepower per axle of locomotives ten years old and over. » » » Doubling the power at the "power points", doubles the drawbar horsepower. » » » Doubling the drawbar horsepower, doubles the net ton-miles per mile of track per day — the true measure of the productiveness of the transportation plant.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

Pa. **George Berg,** division freight agent at Erie, Pa., has been appointed division freight agent at Buffalo, succeeding Mr. Sommers. **M. P. Kenny,** district freight agent at Wheeling, W. Va., has been appointed division freight agent at Erie, succeeding Mr. Berg.

R. J. Doss, whose appointment as freight traffic manager of the Atlantic Coast Line, with headquarters at Wilmington, N. C., was reported in the *Railway Age* of July 6, was born on March 30, 1884, at Canton, Ga., and was educated at Etowah Institute. He entered railroad service in September, 1900, with the Atlanta, Knoxville & Northern (now part of the Louisville & Nashville), serving successively as telegraph operator, agent, and in various positions in the traffic department until 1913. From 1913 to the present time Mr. Doss served in the traffic department of the Atlantic Coast Line, holding consecutively the positions of chief rate clerk, chief clerk in the general freight office at Savannah, Ga., assistant to general freight agent, assistant general freight agent, general freight agent and assistant freight traffic manager, the position he held at the time of his recent appointment as freight traffic manager. During the period of federal control (1918-1920) Mr. Doss was attached to the Southern Freight Traffic committee, United States Railroad Administration, at Atlanta, Ga.

R. J. Doss

MECHANICAL

Roy F. Abell, assistant mechanical engineer of the International Great Northern, has been appointed mechanical engineer, effective July 1, with headquarters as before at Palestine, Tex., succeeding **L. E. Temple,** deceased.

Under changes in personnel affecting fuel supervision on the Northern Pacific, **M. B. Morrow** has been appointed fuel supervisor of the territory between Livingston, Mont., and Parkwater, Wash., with headquarters at Missoula, Mont.; **M. A. Daly,** fuel supervisor, has been assigned to the territory Parkwater and west; and **M. F. Brown,** fuel supervisor, and **H. A. Finberg,** assistant fuel supervisor, have been assigned to the territory Livingston and east.

ENGINEERING AND SIGNALING

H. G. Watkins has been appointed engineer maintenance of way of the Akron, Canton & Youngstown, with headquarters at Akron, Ohio.

R. S. Kniffen has been appointed general roadmaster on the Great Northern, Lines East, with headquarters at Duluth, Minn., succeeding **T. C. Deighton,** deceased.

F. J. Ackerman, engineer maintenance and signals of the Kansas City Terminal, Kansas City, Mo., has been appointed chief engineer, succeeding **J. V. Hanna,** deceased.

PURCHASES AND STORES

Edward H. Polk, district storekeeper on the Southern Pacific, who has been appointed assistant purchasing agent, with headquarters at Portland, Ore., as noted in the *Railway Age* of June 15, was born on July 21, 1885, in California and entered railway service with the Southern Pacific of Mexico in February, 1904. Mr. Polk served as a rodman and instrumentman at Tucson, Ariz., as a material clerk and as general foreman of material yards at several points until April, 1910, when he was appointed section stockman on the Southern Pacific at Tucson. In March, 1911, Mr. Polk was promoted to inspector of stores in the general storekeeper's office at San Francisco, Cal., and in February, 1912, he was sent to Sparks, Nev., as assistant division storekeeper of the Salt Lake division. In July, 1914, he was advanced to division storekeeper of the same division, with headquarters at Ogden, Utah. From July, 1918, until June, 1925, Mr. Polk served as district storekeeper at West Oakland, Cal., being transferred to Sacramento, Cal., seven years later where he remained until his recent appointment.

Victor R. Naylor, district material inspector on the Southern Pacific at Sacramento, Cal., who has been appointed general inspector of stores with headquarters at San Francisco, Cal., as noted in the *Railway Age* of June 22, has been connected with the Southern Pacific for 27 years. He was born on May 24, 1892, at Cleveland, Ohio, and entered railway service on July 10, 1908, with the Southern Pacific, serving in various capacities from counterman to section stockman with the Sacramento district stores until May 18, 1912, when he was appointed storekeeper at Tracy, Cal. On December 15, 1917, Mr. Naylor was advanced to division storekeeper of the Stockton division, being transferred to the Tucson division on December 1, 1920, and thence to the Sacramento division on November 1, 1923. From October 1, 1932, to June 10, 1935, Mr. Naylor served as district material supervisor of the Sacramento district. His appointment as general inspector of stores became effective on the latter date.

Victor R. Naylor

SPECIAL

Dr. William Hibbitts, Texarkana, Ark., has been made chief surgeon for the St. Louis Southwestern, to succeed **Dr. George W. Cale, Jr.,** whose death on March 24 was noted in the *Railway Age* of March 30.

OBITUARY

Fred. W. DeGuire, executive assistant on the Northern Pacific, with headquarters at St. Paul, Minn., died on July 2, at the age of 49 years. Mr. DeGuire had been in charge of publicity for the railroad and prior to becoming connected with the Northern Pacific in 1926, he had engaged in newspaper work.

Allan R. Cameron, auditor of receipts of the Mobile & Ohio, with headquarters at Mobile, Ala., died in that city on July 4, following a short illness. Mr. Cameron was born on August 12, 1876, at Mobile. He entered the service of the Mobile & Ohio in June, 1891, serving in various capacities in the accounting department until November, 1918, when he was appointed auditor. He was promoted to the position of auditor of receipts in March, 1920.

C. B. Young, former consulting mechanical engineer of the Chicago, Burlington & Quincy, whose death on July 1 was reported in the *Railway Age* of July 6, was born on September 25, 1865, and entered the employ of the Chicago, Burlington & Quincy in October, 1891, as a draftsman at Aurora, Ill. He held this position until November, 1899, when he was promoted to chief draftsman, with headquarters at Chicago. In March, 1902, he was promoted to mechanical engineer, which position he held until April 2, 1918, when he was appointed manager of the inspection and testing service of the Division of Transportation for the Railroad Administration, with headquarters at Washington, D. C. In March, 1919, he was transferred to the staff of the Railroad Administration, where he remained until June 1, 1920, when he returned to the Chicago, Burlington & Quincy as mechanical engineer. On September 6, 1927, he was appointed consulting mechanical engineer and on May 1, 1932, retired because of ill health.

Tables of Revenues and Expenses of Railways begin on next left-hand page

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Every pound of locomotive weight beyond that necessary to pull the train at speed is equivalent to so much ballast that must be hauled around all the time but perhaps only needed for a few moments.

This excess weight is avoided by designing the locomotive with cylinders adequate for hauling its train at road speeds and using The Locomotive Booster for starting and quick acceleration.

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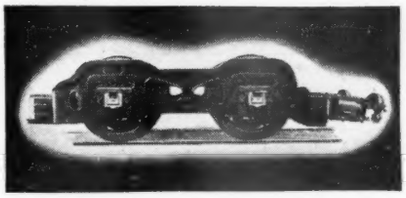
It vitally reduces all costs and extends locomotive mileage for service.



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FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1935

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Akron, Canton & Youngstown	May	171	$139,657	$64	$148,107	$22,983	$19,766	$8,472	$50,491	$3,356	$105,068	70.9	$43,039	$36,149	$21,234	$28,334
	5 mos.	171	790,722	185	834,367	89,507	91,793	41,529	272,578	45,364	540,771	64.8	293,596	252,726	174,997	175,517
Alton	May	949	814,191	126,037	1,106,099	345,279	218,981	50,517	470,379	39,220	1,139,865	103.1	—33,766	—104,706	—261,793	4,477
	5 mos.	949	3,858,256	658,222	5,312,696	858,736	912,944	221,505	2,241,658	234,701	4,544,612	85.5	768,084	415,106	—298,422	—44,664
Atchison, Topeka & Santa Fe System	May	13,308	8,493,910	1,038,428	10,703,703	1,521,551	2,645,064	410,701	4,071,089	Cr.378,570	7,287,034	68.1	3,416,669	2,548,334	2,541,813	715,054
	5 mos.	13,310	41,042,350	4,908,574	50,842,367	6,727,614	13,085,312	1,973,667	19,453,938	1,188,744	42,511,114	83.6	8,331,253	3,985,367	3,728,299	2,887,985
Atlanta & West Point	May	93	84,440	17,005	122,142	19,904	26,739	7,155	55,582	7,385	119,290	97.7	2,852	—3,665	—13,332	—24,149
	5 mos.	93	415,324	93,683	610,439	92,188	124,258	35,257	262,939	34,278	561,739	92.0	48,700	13,751	—40,208	—46,436
Western of Alabama	May	133	76,997	17,731	113,115	23,470	29,959	6,614	49,129	6,398	117,594	104.0	—4,479	—12,582	—4,868	—11,622
	5 mos.	133	367,668	94,206	541,794	106,633	149,461	33,656	236,977	30,175	567,661	104.8	—25,867	—66,351	—43,870	—21,237
Atlanta, Birmingham & Coast	May	639	182,268	6,920	218,536	42,321	45,269	20,368	98,420	Cr.1,097	212,681	97.3	5,855	—7,157	—17,962	—43,080
	5 mos.	639	1,037,630	32,494	1,219,969	201,857	226,518	106,507	497,808	77,297	1,159,681	95.1	60,288	—5,043	—84,673	—117,294
Atlantic Coast Line	May	5,147	2,622,402	364,279	3,460,641	467,793	725,760	110,481	1,406,425	128,553	2,860,158	82.6	600,483	100,370	—67,912	234,335
	5 mos.	5,147	13,204,649	3,367,753	19,030,970	2,184,193	3,458,279	605,700	7,135,917	664,806	14,289,629	75.1	4,741,341	2,338,073	1,678,074	3,359,990
Charleston & Western Carolina	May	342	152,840	1,410	159,689	27,799	33,092	5,981	56,612	4,763	128,247	80.3	31,442	15,393	13,089	27,742
	5 mos.	342	851,932	7,443	884,244	129,347	140,009	30,336	294,224	23,982	617,898	69.9	266,346	182,283	175,591	234,532
Baltimore & Ohio	May	6,440	10,157,219	805,168	11,840,113	988,765	2,859,238	395,789	4,222,245	586,858	9,170,596	77.5	2,669,517	2,033,381	1,556,679	2,412,837
	5 mos.	6,440	49,289,881	3,801,334	56,864,320	4,341,697	12,552,072	1,837,977	20,711,491	2,850,219	42,807,246	75.3	14,057,074	10,795,016	8,873,525	8,729,677
Staten Island Rapid Transit	May	23	39,533	75,607	123,232	12,628	13,537	1,966	82,055	12,851	123,037	99.8	195	—16,405	—41,208	—12,003
	5 mos.	23	208,832	364,900	611,677	62,996	70,564	9,215	419,446	64,412	626,633	102.4	—14,956	—97,964	—236,845	—39,271
Bangor & Aroostook	May	603	531,537	12,153	566,831	90,272	77,997	5,355	118,046	Cr.38,732	254,056	44.8	312,775	248,872	256,417	306,297
	5 mos.	603	3,166,414	156,609	3,440,342	493,648	424,720	24,875	760,280	89,143	1,796,898	52.2	1,643,444	1,334,245	1,265,982	1,183,645
Bessemer & Lake Erie	May	225	1,006,497	642	1,015,632	133,292	252,015	12,293	162,550	Cr.70,019	490,046	48.2	525,586	500,373	516,450	291,099
	5 mos.	225	3,005,545	3,953	3,056,578	432,949	1,269,920	58,925	687,539	113,019	2,561,968	83.8	494,610	385,650	502,033	39,369
Boston & Maine	May	2,016	2,688,303	503,695	3,762,026	430,813	601,753	58,367	1,451,336	180,691	2,730,979	72.6	1,031,047	823,765	682,093	595,963
	5 mos.	2,033	12,853,915	2,744,525	18,152,576	2,241,207	2,900,561	307,018	7,568,384	869,425	13,942,904	76.8	4,209,672	3,228,578	2,362,197	2,234,401
Brooklyn Eastern District Terminal	May	10.91	84,976	.....	87,249	4,656	11,155	179	25,308	2,317	43,615	49.99	43,634	36,702	36,702	39,686
	5 mos.	10.91	400,945	.....	412,283	20,144	45,191	1,117	125,559	27,229	219,240	53.18	193,043	158,566	159,126	146,325
Burlington-Rock Island	May	280	62,363	3,383	71,409	15,043	17,314	4,247	43,328	7,658	87,372	122.4	—15,963	—22,594	—30,599	—32,682
	5 mos.	280	297,893	16,609	338,502	67,649	72,578	21,091	203,922	37,030	402,052	118.8	—63,550	—96,841	—139,897	—102,598
Cambria & Indiana	May	37	86,882	.....	87,007	6,846	42,153	330	11,058	4,118	64,505	74.14	22,502	8,188	69,504	53,601
	5 mos.	37	456,404	.....	457,147	29,411	198,387	1,756	58,238	28,328	316,120	69.15	141,027	62,310	404,159	388,377
Canadian Pacific Lines in Maine	May	233	114,584	11,688	139,892	55,250	30,558	9,080	52,955	6,294	154,873	110.7	—14,981	—20,981	—38,764	—21,552
	5 mos.	233	845,131	71,564	984,364	164,865	204,752	45,930	364,616	31,122	815,031	82.8	169,333	139,323	30,330	122,117
Canadian Pacific Lines in Vermont	May	85	69,707	6,499	88,436	15,529	22,116	4,037	56,011	5,408	103,345	116.9	—14,909	—19,909	—36,264	—32,406
	5 mos.	85	289,253	42,818	393,624	57,661	106,620	20,487	284,610	26,419	497,219	126.3	—103,595	—128,596	—212,205	—190,003
Central of Georgia	May	1,926	941,975	82,211	1,180,496	174,575	275,994	52,366	500,506	43,960	1,052,318	89.1	128,178	54,772	25,924	—57,282
	5 mos.	1,926	4,646,497	527,563	5,933,177	742,724	1,288,165	261,390	2,447,882	409,540	5,212,456	87.9	720,721	354,751	167,830	245,112
Central New Jersey	May	684	2,041,368	323,938	2,553,168	166,610	459,045	45,740	1,016,855	46,646	1,750,693	68.6	802,475	521,780	414,289	190,149
	5 mos.	684	9,733,286	1,608,873	12,140,734	796,205	2,294,271	212,494	5,145,245	467,410	8,993,728	74.1	3,147,006	1,980,604	1,370,285	2,039,568
Central Vermont	May	455	416,420	28,793	492,901	101,514	89,862	13,169	206,749	Cr.203	411,139	83.4	81,762	64,741	50,541	9,031
	5 mos.	455	1,736,907	167,832	2,114,565	295,986	463,731	66,547	1,037,698	86,064	1,950,262	92.2	164,303	83,173	22,749	—11,077
Chesapeake & Ohio	May	3,110	8,137,567	277,472	8,825,508	914,108	1,680,916	180,527	2,146,937	289,447	5,229,262	59.2	3,596,246	2,732,940	2,618,687	3,038,664
	5 mos.	3,113	41,576,890	1,120,875	44,375,345	4,929,191	8,344,580	933,246	10,462,692	1,456,340	26,197,729	59.0	18,177,616	13,862,900	13,751,662	15,152,986
Chicago & Eastern Illinois	May	938	808,573	76,106	1,042,068	148,446	194,647	52,776	436,447	53,371	891,418	85.5	150,650	99,791	—27,268	—23,590
	5 mos.	938	4,415,893	399,443	5,500,300	651,194	932,284	258,376	2,213,067	273,380	4,359,419	79.3	1,140,881	839,636	237,364	18,808
Chicago & Illinois Midland	May	131	244,598	1,011	252,885	33,634	50,643	15,296	64,329	7,401	171,339	67.8	81,546	69,871	76,979	49,191
	5 mos.	131	1,345,929	5,336	1,384,129	155,801	284,575	83,025	353,062	89,281	966,005	69.8	418,124	360,626	376,405	273,998
Chicago & North Western	May	8,428	4,925,964	698,907	6,403,911	1,359,220	1,499,884	168,630	2,508,018	Cr.100,395	5,461,316	85.3	942,595	489,083	253,326	—344,186
	5 mos.	8,428	22,225,207	3,355,880	28,870,674	3,750,063	6,516,444	799,606	12,106,600	1,265,446	24,593,125	85.2	4,277,549	1,834,797	667,701	839,061
Chicago, Burlington & Quincy	May	9,036	4,788,528	506,425	6,103,337	1,143,583	1,276,194	245,577	2,401,050	Cr.84,612	5,042,829	82.6	1,060,508	521,610	240,394	111,836
	5 mos.	9,036	24,588,368	2,373,600	30,570,300	3,784,073	6,383,116	1,083,799	12,031,250	1,421,351	25,005,037	81.8	5,565,263	2,848,831	1,390,687	3,516,140
Chicago Great Western	May	1,511	1,168,034	37,198	1,298,613	181,956	242,279	54,639	500,052	Cr.13,692	965,919	74.4	332,694	275,533	116,061	98,446
	5 mos.	1,511	5,354,192	197,340	6,000,075	889,643	1,005,347	271,451	2,527,728	255,967	4,948,034	82.5	1,052,041	768,684	—57,466	205,381
Chicago, Indianapolis & Louisville	May	647	514,840	49,410	650,961	62,077	149,220	26,331	283,835	Cr.90,328	441,495	67.8	209,466	184,894	86,314	—25,070
	5 mos.	647	2,569,895	220,581	3,172,512	279,940	731,883	127,060	1,402,324	65,286	2,642,205	83.3	530,307	406,888	—60,303	—221,812
Chicago, Milw., St. Paul & Pacific	May	11,126	5,947,136	433,019	7,212,079	1,143,819	1,475,235	192,747	2,898,393	Cr.919,645	4,811,849	66.7	2,400,230	1,883,047	1,501,010	489,590
	5 mos.	11,134	28,846,135	1,943,476	34,328,165	4,100,888	7,191,592	1,014,770	14,440,618	590,389	27,498,461	80.1	6,829,704	4,133,785	2,130,071	2,362,251
Chicago, Rock Island & Pacific	May	7,574	3,842,315	458,328	4,913,060	641,413	1,120,651	197,104	2,327,076	306,312	4,670,741	95.1	242,319	—126,921	—382,838	—157,571
	5 mos.	7,575	19,592,136	2,333,084	24,663,061	2,677,649	5,566,739	937,679	11,477,942	1,463,009	22,471,601	91.1	2,191,460	337,124	—1,092,180	73,949

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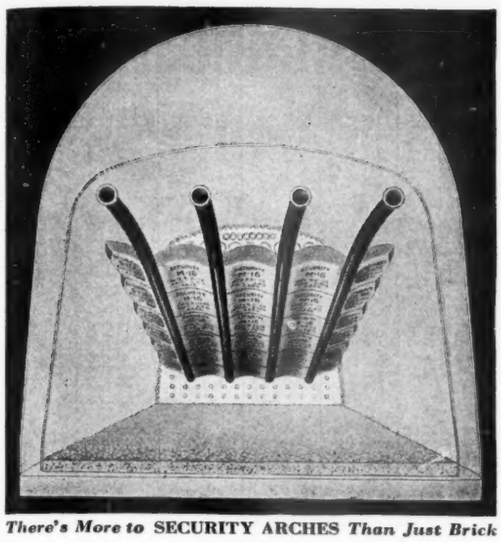

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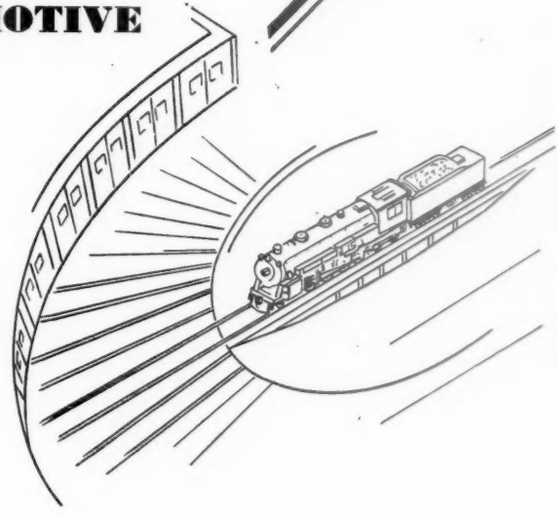

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Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Chicago, Rock Island & Gulf	May	722	$262,602	$21,597	$304,606	$39,432	$35,969	$15,921	$117,683	$22,523	$234,434	76.7	$70,172	$52,511	—$17,017	—$11,714
	5 mos.	722	1,304,141	113,727	1,475,803	192,917	163,096	80,172	589,012	109,518	1,146,201	77.7	329,602	240,181	—86,702	—117,738
Chicago, St. Paul, Minn. & Omaha	May	1,651	938,259	110,058	1,153,495	160,000	253,885	36,381	573,230	Cr.9,855	1,026,700	89.0	126,795	58,650	—14,155	—33,284
	5 mos.	1,653	4,543,532	596,752	5,579,332	651,213	884,779	156,680	2,948,348	311,011	5,009,126	89.8	570,206	204,785	—187,489	214,283
Clinchfield Railroad	May	309	365,635	3,675	374,299	32,739	118,585	16,995	82,422	12,694	263,435	70.4	110,864	72,864	95,690	156,632
	5 mos.	309	2,145,609	17,727	2,189,291	181,669	543,105	82,461	450,259	62,439	1,319,933	60.3	869,358	679,355	790,236	1,092,494
Colorado & Southern	May	1,019	377,735	18,749	442,685	66,770	99,998	12,625	193,278	4,152	378,367	85.5	64,318	9,367	—5,011	—75,814
	5 mos.	1,019	1,844,499	99,548	2,166,903	324,914	490,343	61,348	940,829	162,660	1,986,120	91.7	180,783	—93,079	—158,967	—166,031
Fort Worth & Denver City	May	804	295,501	29,831	386,389	65,110	76,681	17,484	157,408	9,085	329,287	85.2	57,102	29,031	9,849	89,848
	5 mos.	804	1,493,040	147,726	1,934,910	203,616	378,458	81,644	773,774	157,748	1,609,308	83.2	325,602	182,057	51,548	400,127
Columbus & Greenville	May	167	61,595	4,793	71,293	16,896	12,889	4,175	31,260	9,711	74,931	105.1	—3,638	—6,570	—4,986	—4,444
	5 mos.	167	291,012	27,182	343,828	78,263	63,008	18,430	156,867	47,479	364,039	105.9	—20,211	—35,253	—23,965	2,047
Delaware & Hudson	May	835	1,906,404	66,360	2,074,086	255,769	535,766	47,956	756,289	Cr.226,507	1,375,712	66.3	698,374	610,833	613,754	145,330
	5 mos.	835	8,976,257	400,182	9,797,820	1,322,362	2,605,958	236,051	3,810,979	463,133	8,470,729	86.5	1,327,091	888,983	961,868	1,204,045
Delaware, Lackawanna & Western	May	992	3,070,877	507,324	4,056,504	412,981	708,591	120,934	1,725,035	163,957	3,144,295	77.5	912,209	595,931	575,265	636,891
	5 mos.	992	14,254,635	2,604,221	18,984,739	1,467,205	3,641,290	564,207	8,691,449	826,047	15,266,731	80.4	3,718,008	2,068,084	2,018,601	2,402,737
Denver & Rio Grande Western	May	2,584	1,355,024	80,428	1,554,007	278,298	449,454	52,481	538,628	77,797	1,403,478	90.3	150,529	—459	—48,352	135,829
	5 mos.	2,604	6,458,508	404,307	7,326,079	793,275	1,960,041	249,600	2,599,335	388,165	6,015,606	82.1	1,310,473	545,159	359,673	776,574
Denver & Salt Lake	May	232	115,829	3,479	128,290	25,515	34,436	1,848	34,243	9,412	99,962	77.9	28,328	14,328	61,106	—1,724
	5 mos.	232	606,898	18,729	670,683	71,554	150,251	8,550	168,871	48,194	424,266	63.3	246,417	176,412	388,147	81,672
Detroit & Mackinac	May	242	42,549	2,519	51,302	14,549	9,857	929	21,022	2,062	48,397	94.3	2,905	1,164	—2,860	39,865
	5 mos.	242	181,723	12,266	220,825	44,244	43,438	4,400	104,888	20,143	217,099	98.3	3,726	1,450	—11,281	32,284
Detroit & Toledo Shore Line	May	50	232,607	.....	234,538	29,874	27,667	7,069	65,227	—11,841	117,958	50.3	116,580	96,256	56,349	34,970
	5 mos.	50	1,568,926	.....	1,581,230	119,901	129,469	35,197	382,995	23,142	690,698	43.7	890,532	749,923	487,912	472,186
Detroit, Toledo & Ironton	May	472	608,474	265	635,553	70,162	89,858	10,168	132,262	24,959	327,409	51.5	308,144	249,237	214,099	211,633
	5 mos.	472	4,072,472	1,418	4,230,258	380,505	484,668	53,154	780,830	120,839	1,814,000	42.9	2,416,258	2,056,584	1,751,695	1,184,694
Duluth, Missabe & Northern	May	560	1,633,191	4,709	1,872,506	166,226	169,907	4,150	276,005	Cr.54,254	562,034	30.0	1,310,472	1,171,844	1,172,674	510,873
	5 mos.	560	1,932,202	16,661	2,261,279	552,118	832,989	16,475	795,351	144,393	2,341,312	103.5	—80,033	—385,731	—383,985	—1,321,635
Duluth, Winnipeg & Pacific	May	178	80,558	1,487	86,062	25,293	14,251	1,757	37,701	Cr.1,391	77,611	90.2	8,451	4,144	—5,285	—1,204
	5 mos.	178	388,663	9,709	411,980	91,057	74,974	8,520	199,220	14,207	387,978	94.2	23,912	2,916	—40,387	9,471
Elgin, Joliet & Eastern	May	446	949,221	.....	1,108,107	128,763	265,618	13,501	427,047	Cr.109,759	725,127	65.4	382,980	294,957	308,296	186,360
	5 mos.	446	5,265,458	4	5,863,884	505,031	1,259,793	66,078	2,104,556	120,185	4,055,393	69.2	1,808,491	1,361,348	1,278,201	489,799
Erie (including Chicago & Erie)	May	2,304	5,204,754	388,907	6,174,791	627,499	1,231,369	166,908	2,261,905	293,158	4,593,151	74.4	1,581,640	1,245,384	1,002,686	1,541,377
	5 mos.	2,304	25,587,935	1,945,228	29,955,202	2,470,191	6,076,242	813,491	11,403,743	1,456,143	22,266,123	74.3	7,689,079	6,011,307	4,793,568	6,350,117
New Jersey & New York	May	45	15,404	47,906	65,837	6,880	24,086	1,049	49,156	3,168	84,339	28.1	—18,502	—22,652	—38,800	—37,611
	5 mos.	45	73,890	244,205	327,539	28,349	121,270	5,786	245,511	15,361	416,277	127.1	—88,738	—109,497	—190,000	—174,167
New York, Susquehanna & Western	May	215	256,552	25,400	296,996	23,279	51,711	4,703	117,435	13,967	210,195	70.8	86,801	64,401	32,789	66,120
	5 mos.	215	1,353,702	123,931	1,563,434	119,181	275,927	23,877	643,018	63,295	1,125,276	72.0	438,158	324,953	152,546	291,937
Florida East Coast	May	811	559,710	100,377	765,166	116,774	131,294	21,773	232,372	Cr.2,465	508,937	66.5	256,229	186,194	112,723	60,009
	5 mos.	811	2,701,589	1,344,744	4,641,217	633,371	715,029	112,263	1,440,136	200,307	3,187,631	68.7	1,453,586	1,083,155	795,834	1,254,600
Fort Smith & Western	May	249	36,303	915	40,424	14,218	7,859	5,612	18,525	4,065	50,425	124.7	—10,001	—11,201	—16,562	—9,248
	5 mos.	249	238,049	4,175	258,933	71,375	45,495	27,166	93,701	19,967	258,447	99.8	486	—7,784	—33,760	—21,294
Georgia Railroad	May	329	216,138	11,345	251,487	29,825	51,449	17,136	112,960	11,967	223,909	89.0	27,578	25,893	36,791	15,467
	5 mos.	329	1,093,085	59,962	1,273,714	130,250	254,164	83,415	564,905	58,503	1,093,398	85.8	180,316	157,224	209,279	197,915
Georgia & Florida	May	408	76,519	1,934	82,521	23,158	16,469	7,686	32,167	5,369	84,836	102.8	—2,315	—6,902	—5,745	—8,246
	5 mos.	408	388,347	9,267	417,684	99,791	77,886	38,814	160,357	33,304	410,117	98.2	7,567	—15,383	—19,348	—15,342
Grand Trunk Western	May	1,006	1,517,955	56,416	1,695,063	260,597	361,176	32,830	707,052	Cr.10,547	1,353,845	79.9	341,218	266,671	145,034	40,854
	5 mos.	1,006	7,556,098	291,269	8,430,409	963,527	1,769,589	159,012	3,524,718	318,217	6,751,302	80.1	1,679,107	1,297,274	669,688	566,961
Canadian Nat'l Lines in New Eng.	May	172	66,234	3,423	77,239	29,884	27,632	2,540	51,216	3,398	114,846	148.7	—37,607	—48,905	—80,439	—76,074
	5 mos.	172	377,495	22,904	438,153	115,351	104,905	12,274	295,865	38,152	569,100	129.9	—130,947	—187,441	—368,281	—329,888
Great Northern	May	8,282	5,471,704	388,919	6,433,030	449,434	1,032,562	183,799	1,975,655	194,921	3,888,268	60.4	2,544,762	1,999,592	1,939,848	942,178
	5 mos.	8,300	22,009,317	1,507,361	25,786,800	2,131,111	4,954,783	821,070	9,834,531	491,642	18,453,927	71.6	7,332,873	4,548,740	3,948,774	2,073,584
Green Bay & Western	May	234	111,346	799	117,261	25,746	16,279	5,756	42,531	1,325	91,628	78.1	25,633	17,628	14,592	—15,544
	5 mos.	234	563,799	5,046	589,944	114,284	74,696	25,762	222,986	23,782	461,501	78.2	128,443	96,323	82,373	—9,969
Gulf & Ship Island	May	259	82,329	6,846	107,104	13,859	20,896	3,070	51,260	4,683	94,013	87.8	13,091	—1,377	—10,535	—11,397
	5 mos.	259	409,979	38,347	541,411	78,748	89,759	15,311	261,073	25,093	472,545	87.3	68,866	—3,158	—46,735	—30,377
Gulf, Mobile & Northern	May	936	478,226	17,179	516,840	76,702	80,435	32,789	145,217	Cr.46,874	286,518	55.44	230,322	200,296	155,394	60,664
	5 mos.	936	2,125,588	88,820	2,314,194	301,373	365,550	155,981	710,730	81,968	1,614,652	69.77	699,542	548,908	325,049	252,356
Illinois Central	May	4,980	5,362,314	600,268	6,785,745	715,163	1,702,111	210,348	2,757,628	332,343	5,746,863	84.7	1,038,882	580,332	347,937	801,530
	5 mos.	4,980	27,899,958	3,292,310	34,419,916	2,932,588	8,032,257	1,025,524	13,506,932	1,665,885	27,379,213	79.5	7,040,703	4,770,189	4,258,849	5,358,610

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Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Yazoo & Mississippi Valley	May	1,635	$844,356	$54,378	$990,078	$94,198	$181,021	$31,456	$412,125	$49,879	$770,266	77.8	$219,812	$103,026	$31,734	$93,979
	5 mos.	1,635	3,893,311	291,578	4,560,985	404,013	872,028	153,391	2,029,867	249,447	3,711,927	81.4	849,058	264,329	—90,478	140,142
Illinois Central System	May	6,616	6,206,670	654,646	7,775,823	809,361	1,883,132	241,804	3,169,753	382,222	6,517,129	83.8	1,258,694	679,840	386,171	905,253
	5 mos.	6,616	31,793,269	3,583,888	38,980,901	3,336,601	8,904,285	1,178,915	15,536,799	1,915,332	31,091,140	79.8	7,889,761	5,018,446	4,205,946	5,547,570
Illinois Terminal	May	525	300,039	60,240	397,353	46,214	70,042	16,607	174,898	Cr. 35,893	273,634	68.86	123,719	98,829	87,449	94,823
	5 mos.	525	1,594,908	299,239	2,070,956	199,224	328,585	77,456	773,669	47,570	1,434,664	69.28	636,292	508,475	430,253	372,438
Kansas City Southern	May	878	684,336	19,513	803,460	85,799	139,613	47,788	269,384	61,348	601,805	74.9	201,655	135,510	90,690	110,171
	5 mos.	878	3,280,869	86,598	3,833,040	384,616	690,730	240,641	1,309,176	374,569	3,000,216	78.3	832,824	509,375	328,856	552,568
Kansas, Oklahoma & Gulf	May	326	152,774	403	155,862	28,865	16,430	7,691	41,632	Cr. 7,688	84,231	54.0	71,631	61,934	43,927	29,978
	5 mos.	326	767,975	1,883	782,806	89,641	94,869	37,179	196,387	30,002	443,931	56.7	338,875	279,299	199,151	239,534
Lake Superior & Ishpeming	May	160	167,125	79	190,373	29,891	26,390	584	32,775	Cr. 9,948	79,692	41.9	110,681	94,319	93,295	84,631
	5 mos.	160	337,935	544	375,015	108,198	127,607	3,051	117,818	19,746	376,420	100.4	—1,405	—70,657	—78,531	—103,229
Lehigh & Hudson River	May	96	125,810	93	127,763	16,894	18,984	3,207	43,111	6,626	88,822	69.5	38,941	27,309	15,292	16,474
	5 mos.	96	622,609	700	632,919	57,530	106,237	16,014	216,085	29,242	425,108	67.2	207,811	148,556	85,936	78,390
Lehigh & New England	May	219	292,710	237	295,134	31,732	54,498	5,658	103,158	Cr. 29,857	165,189	56.0	129,945	123,329	131,975	72,732
	5 mos.	220	1,372,015	1,395	1,383,553	144,511	287,949	27,373	512,184	51,690	1,023,706	74.0	359,847	327,386	365,983	387,862
Lehigh Valley	May	1,354	3,194,745	169,602	3,620,420	266,686	571,594	116,829	1,536,123	140,690	2,647,344	73.1	973,076	776,336	641,158	556,490
	5 mos.	1,354	15,041,510	950,005	17,166,439	1,047,360	3,014,247	553,079	7,680,858	684,547	13,055,720	76.1	4,110,719	3,172,534	2,481,487	3,129,175
Louisiana & Arkansas	May	608	362,157	8,649	398,650	47,998	58,523	23,653	105,494	16,081	248,657	62.4	149,993	115,772	107,535	83,784
	5 mos.	608	1,657,413	41,254	1,824,498	225,462	327,170	118,353	478,895	98,389	1,243,309	68.1	581,189	414,133	371,538	394,596
Louisiana, Arkansas & Texas	May	255	69,648	189	72,280	19,282	7,306	4,472	27,724	Cr. 7,891	50,893	70.4	21,387	18,692	7,493	—3,347
	5 mos.	255	354,684	1,055	366,732	96,704	41,466	23,277	130,924	14,988	307,359	83.8	59,373	48,198	—8,864	5,194
Louisville & Nashville	May	5,048	5,101,851	431,745	6,157,493	695,278	1,308,265	171,358	2,273,381	267,391	4,745,507	77.1	1,411,986	1,074,640	1,035,338	1,023,452
	5 mos.	5,050	25,320,670	2,294,044	30,279,211	3,357,993	6,712,866	865,659	11,081,260	1,358,599	23,571,798	77.8	6,707,413	5,042,833	5,071,846	6,282,443
Maine Central	May	1,066	810,376	64,453	976,754	123,576	153,642	10,393	327,932	37,212	652,702	66.8	324,052	275,471	244,272	221,790
	5 mos.	1,050	4,074,778	371,407	4,874,631	765,772	789,934	54,142	1,890,184	191,119	3,691,060	75.7	1,183,571	941,038	639,080	483,385
Midland Valley	May	361	80,498	6	82,589	16,289	14,228	2,318	26,498	Cr. 5,950	52,604	63.7	29,985	23,438	20,595	11,146
	5 mos.	361	477,779	45	487,623	67,196	57,600	12,121	138,087	24,110	297,570	61.0	190,053	153,567	113,526	120,429
Minneapolis & St. Louis	May	1,647	521,724	12,131	575,426	94,767	119,529	31,220	296,861	37,146	577,639	100.4	—2,213	—25,958	—53,676	—91,146
	5 mos.	1,647	2,533,363	65,058	2,787,574	313,954	615,018	138,965	1,482,389	191,449	2,738,557	98.2	49,017	—60,997	—176,800	—122,433
Minn., St. Paul & Sault Ste. Marie	May	4,297	1,715,133	74,518	1,971,086	318,959	396,026	58,054	816,408	Cr. 222,825	1,370,137	69.5	600,949	471,339	348,006	149,763
	5 mos.	4,297	7,270,142	358,686	8,344,157	1,251,949	1,825,357	286,642	4,031,806	351,650	7,764,033	93.0	580,124	—19,362	—589,832	—249,749
Duluth, South Shore & Atlantic	May	556	179,599	9,883	212,060	24,819	39,608	4,093	78,516	Cr. 25,744	120,527	56.8	91,533	88,959	83,329	33,191
	5 mos.	556	711,444	49,441	830,336	123,485	173,475	21,593	376,681	11,547	705,257	84.9	125,079	91,158	50,081	—30,211
Spokane International	May	163	38,080	1,521	45,668	14,386	5,523	1,801	20,500	Cr. 4,984	37,226	81.5	8,442	5,512	2,563	—2,386
	5 mos.	163	155,463	9,235	191,064	47,461	28,799	8,891	95,742	15,068	195,921	102.5	—4,857	—19,424	—31,848	—35,450
Mississippi Central	May	150	52,938	1,492	56,773	7,710	10,534	6,825	17,634	Cr. 2,047	40,656	71.6	16,117	13,309	9,758	879
	5 mos.	150	254,734	7,375	272,460	38,437	53,785	34,321	89,756	23,932	240,231	88.2	32,229	18,174	866	8,730
Missouri & Arkansas	May	364	71,191	980	78,679	15,850	6,390	3,808	25,666	4,504	56,218	71.5	22,461	21,635	13,874	.....
	5 mos.	364	108,834	1,394	119,771	24,278	9,920	5,695	38,315	6,792	85,000	71.0	34,771	33,169	21,333	.....
Missouri-Illinois	May	208	84,218	766	86,656	37,237	10,842	2,586	28,407	Cr. 6,045	73,027	84.3	13,629	12,929	4,976	12,353
	5 mos.	208	413,026	3,487	425,007	95,731	58,266	13,725	142,302	20,118	329,440	77.5	95,567	72,456	32,106	42,411
Missouri-Kansas-Texas Lines	May	3,293	1,634,470	138,953	2,032,009	412,535	397,852	111,822	809,825	Cr. 1,829	1,744,607	85.9	287,402	119,289	—75,928	204,795
	5 mos.	3,293	8,071,043	722,866	9,995,361	1,523,769	2,027,654	543,993	3,986,128	592,283	8,749,042	87.5	1,246,319	408,569	—502,198	428,938
Missouri Pacific	May	7,235	4,893,217	293,905	5,857,151	958,827	1,395,153	227,797	2,304,774	Cr. 670,056	4,273,767	73.0	1,583,384	1,257,615	893,152	799,937
	5 mos.	7,235	24,478,012	1,538,390	28,917,859	4,151,665	6,438,472	1,114,232	11,381,262	710,489	24,002,637	83.0	4,915,222	3,286,290	1,484,897	3,272,721
Gulf Coast Lines	May	1,763	767,972	28,047	867,740	139,233	158,208	42,143	311,037	91,476	560,235	64.56	307,505	254,148	168,851	195,498
	5 mos.	1,763	4,064,650	151,723	4,543,312	633,724	778,906	209,838	1,426,027	146,254	3,198,980	70.41	1,344,332	1,092,729	594,550	891,478
International-Great Northern	May	1,154	817,586	53,361	992,052	147,846	189,406	28,089	392,023	Cr. 109,397	658,908	66.42	333,144	297,036	215,148	161,694
	5 mos.	1,154	3,920,629	264,994	4,770,181	686,882	893,884	141,357	1,914,936	125,811	3,820,647	80.09	949,534	774,179	310,037	659,653
San Antonio, Uvalde & Gulf	May	316	64,173	2,398	73,691	19,732	14,083	4,533	39,644	Cr. 5,013	72,956	99.0	735	—3,551	—24,094	—4,771
	5 mos.	316	336,335	13,199	388,901	90,939	58,495	22,438	154,525	19,898	345,760	88.9	43,141	24,215	—78,388	62,375
Mobile & Ohio	May	1,201	665,681	22,781	744,884	117,122	153,205	42,998	293,730	18,780	627,251	84.2	117,633	84,130	14,236	21,532
	5 mos.	1,201	3,009,951	111,137	3,355,108	530,292	716,782	193,198	1,419,925	223,603	3,090,487	92.1	264,621	101,819	—197,601	54,787
Monongahela	May	174	337,006	623	339,650	33,916	24,461	422	65,482	5,383	129,664	38.2	209,986	192,331	104,250	101,417
	5 mos.	174	1,633,084	4,162	1,648,533	137,814	138,326	2,142	360,845	20,216	658,890	40.0	989,643	899,624	476,036	551,783
Montour	May	57	163,418	.....	163,943	19,309	33,714	947	31,363	9,876	95,209	58.1	68,734	53,240	73,743	71,707
	5 mos.	57	716,734	.....	721,209	56,693	162,412	4,579	176,146	35,148	434,978	60.3	286,231	221,386	309,689	270,282
Nashville, Chattanooga & St. Louis	May	1,184	849,587	67,251	1,046,998	145,968	267,076	58,843	418,133	55,817	952,652	91.0	94,346	59,117	30,349	95,867
	5 mos.	1,188	4,208,045	385,756	5,230,732	677,856	1,296,988	293,348	2,133,714	279,524	4,710,388	90.1	520,344	343,268	189,736	667,209

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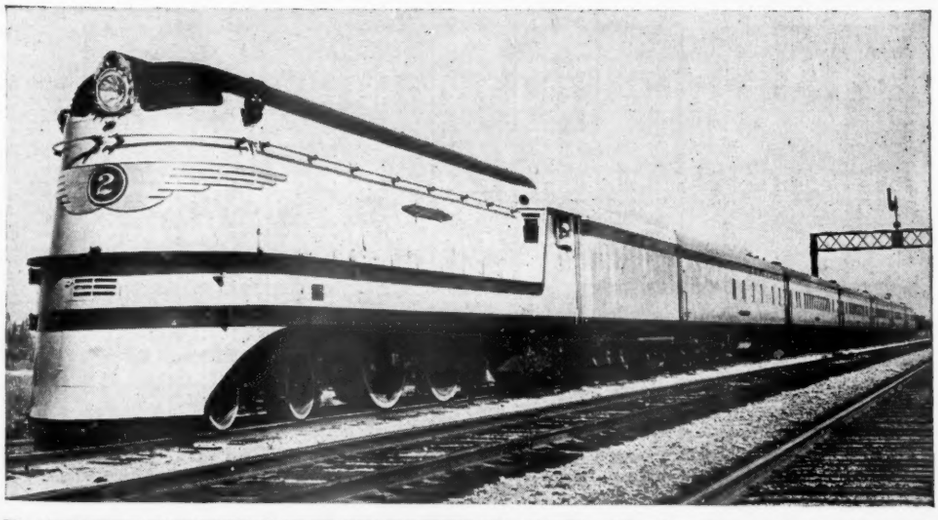
RAILROADING

The new Milwaukee high-speed passenger train, "Hiawatha" was placed in regular service May 29th.

MILES	NORTHBOUND			SOUTHBOUND	
0	Lv.	Chicago, Un. Sta.	1:00 P.M.	Lv. Minneapolis	12:30 P.M.
85.0	Ar.	Milwaukee	2:15 P.M.	Lv. St. Paul	1:00 P.M.
177.9	Ar.	Portage	3:41 P.M.	Ar. Winona	2:45 P.M.
221.0	Ar.	New Lisbon	4:18 P.M.	Ar. LaCrosse	3:14 P.M.
280.8	Ar.	LaCrosse	5:11 P.M.	Ar. New Lisbon	4:11 P.M.
307.5	Ar.	Winona	5:45 P.M.	Ar. Portage	4:46 P.M.
409.9	Ar.	St. Paul	7:30 P.M.	Ar. Milwaukee	6:10 P.M.
420.8	Ar.	Minneapolis	8:00 P.M.	Ar. Chicago, Un. Sta.	7:30 P.M.

Train consists of six sturdy, air conditioned, quiet, smooth-riding parlor cars, coaches and restaurant-buffet having a seating capacity exclusive of the dining car of 265. The cars are one-third lighter in weight than conventional cars. . . Starting June 15th an extra car was added to this train. Also an extra stop is now made at Red Wing. And the locomotive is still handling the train with ease and having no difficulty making schedule time. . . This is true railroading as we have always known it.

AMERICAN LOCOMOTIVE COMPANY



30 CHURCH STREET · NEW YORK · N.Y.

ALCO

Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Nevada Northern	May	165	$26,032	$855	$32,637	$8,887	$3,167	$729	$8,151	$2,767	$23,701	72.6	$8,936	$2,176	$6,086	$1,427
	5 mos.	165	121,739	4,241	149,507	44,247	15,613	3,646	40,156	19,926	123,588	82.6	25,919	—7,539	11,987	7,358
New York Central	May	11,392	17,432,544	4,081,094	24,994,186	2,362,612	5,343,593	550,229	9,483,953	1,016,758	19,078,585	76.3	5,915,601	3,799,126	2,474,105	3,239,727
	5 mos.	11,392	88,833,287	21,701,905	125,459,911	11,388,965	27,221,709	2,591,359	48,060,897	5,077,088	96,096,264	76.6	29,363,647	19,437,219	13,082,757	14,037,967
Pittsburgh & Lake Erie	May	233	1,249,985	42,671	1,340,261	126,978	367,422	29,670	444,911	71,228	1,048,767	78.3	291,494	185,850	345,496	414,926
	5 mos.	233	5,880,606	225,760	6,321,398	478,605	1,939,560	131,466	2,251,006	338,746	5,180,286	82.0	1,141,112	642,809	1,376,273	1,391,289
New York, Chicago & St. Louis	May	1,691	2,521,580	56,807	2,687,646	352,375	407,018	106,773	978,610	122,876	1,964,612	73.1	723,034	627,681	393,488	489,457
	5 mos.	1,691	13,084,100	278,471	13,840,946	1,340,993	2,054,738	522,624	4,943,691	619,534	9,482,378	68.5	4,358,568	3,733,266	2,518,303	2,913,816
New York, New Haven & Hartford	May	2,068	3,500,588	1,674,323	5,867,596	645,685	1,015,938	97,269	2,305,010	151,576	4,344,889	74.0	1,522,707	1,297,635	817,537	620,461
	5 mos.	2,068	16,658,719	8,833,329	28,874,670	3,099,663	4,663,007	393,779	11,442,610	1,063,980	21,376,702	74.0	7,497,968	5,821,647	3,291,675	3,069,385
New York Connecting	May	20	199,793	.....	218,059	13,017	7,035	.....	29,206	1,126	50,384	23.1	167,675	133,755	97,366	110,133
	5 mos.	20	1,095,969	.....	1,153,177	61,543	33,418	.....	154,068	5,530	254,559	22.1	898,618	728,198	557,805	605,377
New York, Ontario & Western	May	567	714,631	12,190	771,832	65,715	128,063	11,460	290,520	23,288	520,232	67.4	251,600	214,474	183,479	127,754
	5 mos.	567	3,266,614	41,052	3,574,874	311,182	614,936	56,718	1,546,785	120,430	2,665,543	74.6	909,331	720,501	515,724	576,854
Norfolk & Western	May	2,167	5,572,958	127,049	5,939,151	684,559	1,328,536	134,767	1,473,174	127,161	3,758,730	63.3	2,180,421	1,492,230	1,666,359	2,104,036
	5 mos.	2,170	28,307,333	657,459	30,040,128	3,515,755	6,354,395	591,020	7,367,364	1,136,656	19,018,865	63.3	11,021,263	7,579,934	8,465,748	9,681,960
Norfolk Southern	May	932	347,871	8,736	378,290	74,363	53,948	24,041	153,440	21,929	327,668	86.6	50,622	24,793	—1,278	14,110
	5 mos.	932	1,703,567	41,672	1,845,560	375,229	261,321	107,252	723,610	70,560	1,537,919	83.3	307,641	178,802	49,638	119,488
Northern Pacific	May	6,722	3,303,630	242,360	3,977,690	679,843	1,046,282	174,084	1,603,853	186,832	3,719,583	93.5	258,107	—194,265	76,448	274,959
	5 mos.	6,722	16,013,941	1,141,333	19,061,927	2,505,162	4,942,571	772,423	8,248,644	1,428,241	18,162,375	95.3	899,552	—1,314,922	231,601	1,592,700
Northwestern Pacific	May	375	152,569	75,079	264,810	41,523	50,955	3,673	152,923	13,472	262,468	99.1	2,342	—12,942	—24,516	—234
	5 mos.	375	644,892	338,769	1,146,181	187,553	251,288	19,155	718,988	70,228	1,245,919	108.7	—99,738	—176,311	—219,395	—113,190
Oklahoma City-Ada-Atoka	May	132	33,879	305	36,904	12,196	2,697	838	10,824	Cr. 1,515	25,040	67.9	11,864	10,822	3,294	1,900
	5 mos.	132	170,382	1,570	183,160	44,032	6,720	3,914	54,058	6,850	115,574	63.1	67,586	58,922	22,904	1,821
Pennsylvania Railroad	May	10,481	21,874,250	4,696,231	29,910,584	2,842,814	5,565,797	660,423	10,869,049	1,435,901	21,630,888	72.3	8,279,696	5,806,891	5,224,903	6,008,785
	5 mos.	10,481	107,877,648	24,908,030	147,177,354	12,282,412	28,395,632	2,977,831	54,409,973	7,081,095	106,933,430	72.7	40,243,924	29,957,779	26,550,419	26,308,469
Long Island	May	396	533,497	1,413,225	2,053,298	153,896	368,862	20,873	940,519	59,600	1,543,860	75.2	509,438	259,396	82,752	156,577
	5 mos.	396	2,549,934	6,390,385	9,396,056	960,005	1,748,349	71,290	4,705,308	288,051	7,773,107	82.7	1,622,949	777,720	—75,003	562,993
Pennsylvania-Reading Seashore Lines	May	413	215,541	150,460	388,936	49,857	91,497	6,977	266,485	26,486	442,062	113.7	—53,126	—129,277	—195,094	—208,425
	5 mos.	413	1,130,981	632,813	1,868,314	317,441	449,147	35,617	1,340,804	131,752	2,278,893	122.0	—410,579	—760,292	—1,092,899	—1,022,190
Pere Marquette	May	2,129	2,007,981	43,361	2,184,974	273,958	506,628	63,540	827,997	91,987	1,768,047	80.9	416,927	326,039	216,337	331,913
	5 mos.	2,129	10,559,728	249,376	11,340,598	1,164,320	2,465,741	307,061	4,234,768	448,512	8,638,644	76.2	2,701,954	2,218,727	1,695,681	1,811,782
Pittsburg & Shawmut	May	101	42,284	290	43,314	9,996	16,365	1,247	14,818	4,035	46,461	107.3	—3,147	—3,541	—1,416	15,521
	5 mos.	101	284,154	2,442	290,507	51,833	94,735	6,828	95,947	13,812	263,155	90.6	27,352	25,468	36,363	80,223
Pittsburgh & West Virginia	May	138	222,840	.....	235,579	27,476	52,214	13,563	49,162	Cr. 14,172	138,001	58.6	97,578	76,878	91,907	89,334
	5 mos.	138	1,130,374	.....	1,189,426	111,488	277,685	65,252	256,187	48,570	808,611	68.0	380,815	295,742	403,382	430,033
Pittsburg, Shawmut & Northern	May	190	75,512	101	76,975	19,424	17,365	1,415	27,942	6,460	72,606	94.3	4,369	2,246	—2,602	—9,146
	5 mos.	190	415,762	694	424,090	76,095	90,171	6,829	162,758	31,597	367,450	86.6	56,640	45,880	15,842	32,670
Reading	May	1,459	3,946,677	231,959	4,407,187	363,518	723,322	82,059	1,652,870	208,603	3,049,346	69.2	1,357,841	968,955	1,023,059	1,238,284
	5 mos.	1,460	19,529,202	1,263,021	21,949,123	1,607,797	3,958,260	373,259	8,517,340	1,105,814	15,646,193	71.3	6,302,930	4,728,877	4,820,968	6,492,790
Richmond, Fredericksburg & Potomac	May	117	355,951	106,297	607,440	63,364	129,477	9,410	243,089	33,081	490,630	80.8	116,810	88,253	49,017	51,873
	5 mos.	117	1,456,781	870,703	2,985,674	266,944	610,793	43,780	1,226,617	106,271	2,328,873	78.0	656,801	505,099	298,071	289,974
Rutland	May	407	187,800	22,906	273,602	44,801	56,613	11,314	137,160	14,620	264,508	96.7	9,094	—10,749	—9,869	13,586
	5 mos.	407	870,033	153,231	1,290,025	211,995	283,599	53,920	677,063	71,786	1,297,849	100.6	—7,824	—106,082	—89,890	—14,601
St. Louis-San Francisco	May	5,042	2,644,991	203,125	3,194,423	882,850	847,818	103,239	1,286,644	Cr. 377,136	2,758,667	86.4	435,756	204,240	167,957	256,684
	5 mos.	5,045	12,917,829	972,956	15,426,066	3,050,310	3,991,632	490,220	6,152,044	437,266	14,181,181	91.9	1,244,885	48,800	21,511	1,389,574
Fort Worth & Rio Grande	May	233	27,701	699	34,205	10,353	11,782	2,417	23,802	Cr. 7,174	41,180	120.4	—6,975	—10,942	—16,743	—25,563
	5 mos.	233	121,322	5,299	157,779	54,817	48,315	12,691	114,277	11,079	241,163	152.8	—83,384	—103,374	—127,622	—130,798
St. Louis, San Francisco & Texas	May	261	82,267	594	85,973	33,646	17,361	5,178	40,035	Cr. 9,905	86,303	100.4	—330	—2,431	—28,019	—52,227
	5 mos.	261	350,794	2,195	370,153	141,068	77,084	23,870	188,189	23,784	453,994	122.7	—83,841	—102,541	—220,810	—203,378
St. Louis Southwestern Lines	May	1,786	1,210,804	15,192	1,286,239	150,729	178,599	72,485	458,280	59,568	925,698	72.0	360,541	285,648	139,073	274,017
	5 mos.	1,786	6,145,976	74,068	6,493,253	701,228	884,141	359,217	2,142,862	296,838	4,414,804	68.0	2,078,449	1,723,483	1,086,808	826,481
San Diego & Arizona Eastern	May	155	36,059	4,699	42,032	11,815	8,306	1,972	20,158	4,912	47,769	113.6	—5,737	—8,338	—7,976	—3,342
	5 mos.	155	159,825	24,291	190,598	54,579	40,479	9,626	95,953	22,513	226,076	118.6	—35,478	—51,637	—46,715	387
Seaboard Air Line	May	4,307	2,370,092	228,169	2,959,787	420,710	593,311	142,376	1,110,571	141,582	2,435,367	82.3	524,420	274,265	187,595	259,460
	5 mos.	4,307	12,096,311	1,681,605	15,557,166	2,089,146	2,955,497	700,785	5,656,784	396,027	11,998,989	77.1	3,558,177	2,314,301	1,731,175	1,860,612

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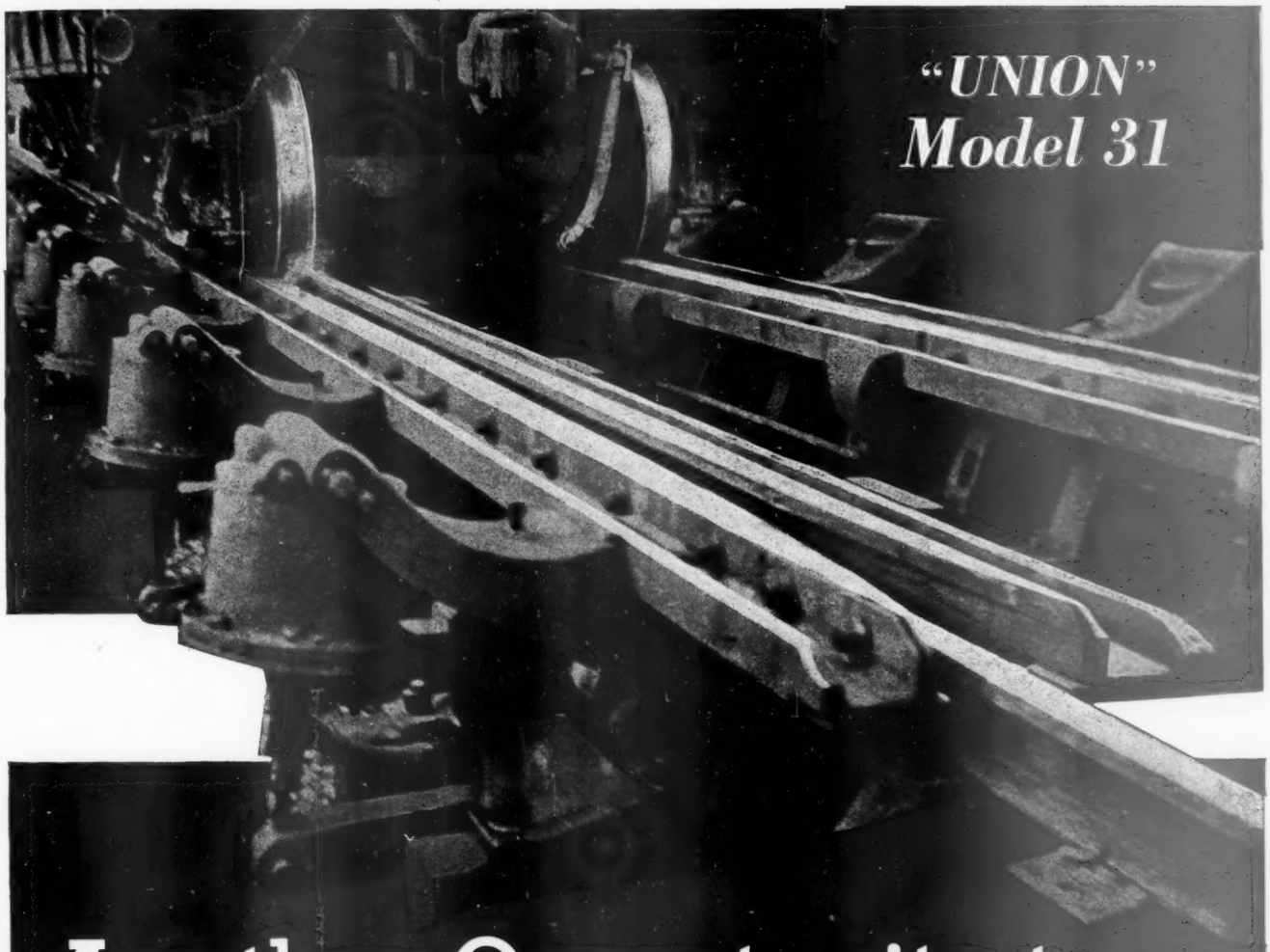

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GRATIFYING returns on the capital investment have been made in classification yards equipped with car retarders. These returns have been made during five years of abnormally low traffic conditions. Under such conditions retarders paid for themselves one and one-half times. » » » » » » » » »

The new "Union" Model 31 Electro-Pneumatic Car Retarder increases the opportunities for realizing large savings and improved safety in the operation of classification yards. It *increases* the possibilities for *decreasing* the cost per car classified, eliminates switching at other points and provides other operating and economic advantages. » » » » » »

We suggest that you consult our nearest district office and procure full details. You will be convinced.

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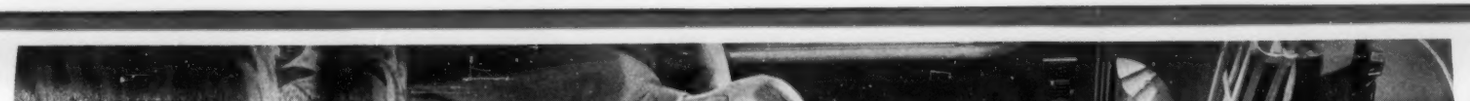
1881 **Union Switch & Signal Co.** 1935

SWISSVALE, PA.

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

Revenues and Expenses of Railways

MONTH OF MAY AND FIVE MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Southern Railway	May	6,644	$5,146,657	$619,576	$6,420,885	$873,322	$1,283,857	$147,986	$2,523,117	$258,871	$5,130,779	79.9	$1,290,106	$856,369	$700,032	$850,687
	5 mos.	6,644	26,647,051	3,147,545	32,982,486	4,281,928	6,293,886	728,076	12,517,137	1,244,465	25,285,882	76.7	7,696,604	5,540,136	4,590,534	6,100,208
Alabama Great Southern	May	315	354,232	37,900	429,959	92,832	108,646	10,458	145,448	16,241	376,523	87.6	53,436	23,907	289	45,226
	5 mos.	315	1,637,331	192,215	2,003,107	427,788	502,782	51,502	703,454	76,097	1,775,234	88.6	227,873	86,421	28,890	278,505
Cinn., New Orleans & Texas Pacific	May	336	959,527	55,179	1,085,210	183,127	196,375	24,311	287,084	37,478	732,762	67.5	352,448	290,801	239,253	347,880
	5 mos.	336	4,603,105	327,712	5,267,869	847,398	982,879	121,190	1,403,337	186,324	3,566,337	67.7	1,701,532	1,383,614	1,199,419	1,544,777
Georgia Southern & Florida	May	397	131,525	20,583	171,943	40,102	32,269	1,920	83,751	2,403	162,539	94.5	9,404	—3,158	—10,196	3,360
	5 mos.	397	528,177	139,430	764,103	153,960	163,551	8,739	353,406	12,304	704,319	92.2	59,784	—3,049	—2,856	81,729
New Orleans & Northeastern	May	204	147,007	16,416	178,675	26,495	33,985	5,917	64,791	9,209	142,008	79.5	36,667	13,754	487	13,402
	5 mos.	204	752,792	80,615	907,748	139,070	171,632	26,824	321,257	43,232	709,567	78.2	198,181	84,746	28,548	33,262
Northern Alabama	May	99	41,643	1,627	45,610	7,383	1,415	1,361	17,099	1,833	29,091	63.8	16,519	12,820	333	1,917
	5 mos.	99	220,380	7,852	237,176	50,803	7,269	6,045	83,224	8,645	155,986	65.8	81,190	62,704	1,319	18,522
Southern Pacific	May	8,788	7,931,976	1,429,999	10,456,041	849,248	1,906,868	339,519	3,886,191	544,435	7,711,497	73.8	2,744,544	1,948,441	1,528,880	1,902,714
	5 mos.	8,792	35,279,829	6,607,002	46,521,423	4,304,227	8,548,738	1,440,208	17,669,078	2,740,775	35,619,954	76.6	10,901,469	6,953,830	5,298,646	4,251,623
Southern Pacific Steamship Lines	May	....	380,894	12,956	395,614	15,229	88,023	16,394	320,790	18,163	458,599	115.9	—62,985	—63,734	—63,866	—71,683
	5 mos.	....	1,870,088	46,022	1,978,121	67,296	438,811	79,750	1,554,873	90,028	2,230,758	112.8	—252,637	—257,647	—258,307	—321,958
Texas & New Orleans	May	4,443	2,347,948	211,229	2,903,983	388,072	561,741	110,582	1,065,472	207,822	2,339,846	80.6	564,137	348,142	150,112	94,695
	5 mos.	4,443	11,112,843	1,067,441	13,879,716	1,864,505	2,670,309	575,004	5,061,840	1,018,668	11,270,038	81.2	2,609,678	1,508,366	525,469	—199,084
Spokane, Portland & Seattle	May	552	462,310	42,714	543,314	42,132	63,188	5,994	168,080	Cr. 51,002	230,769	42.5	312,545	264,013	220,514	133,682
	5 mos.	552	1,856,313	173,071	2,195,803	182,862	308,660	28,741	747,878	33,124	1,310,518	59.7	885,285	631,142	533,490	520,416
Tennessee Central	May	286	160,859	4,352	175,821	35,253	25,022	5,265	59,649	2,860	127,745	72.7	48,076	44,075	31,811	18,462
	5 mos.	286	820,072	23,993	895,953	148,168	132,885	25,462	314,187	44,791	664,955	74.2	230,998	210,809	149,757	156,792
Texas & Pacific	May	1,949	1,438,829	161,255	1,845,423	196,962	353,083	72,333	594,112	111,037	1,347,555	73.0	497,868	396,654	300,019	412,365
	5 mos.	1,949	7,218,929	753,478	9,055,712	955,205	1,681,382	343,827	2,860,608	532,862	6,465,171	71.4	2,590,541	2,083,708	1,564,925	1,752,072
Texas-Mexican	May	162	119,012	391	130,402	16,501	13,951	3,040	37,437	6,575	77,504	59.4	52,898	48,644	40,257	18,146
	5 mos.	162	519,420	1,905	575,425	75,306	70,911	15,682	173,241	29,983	364,433	63.3	210,992	190,193	152,764	68,347
Toledo, Peoria & Western	May	239	132,240	4	134,470	59,230	11,680	15,824	36,002	Cr. 1,128	121,608	90.4	12,862	11,960	—2,361	7,861
	5 mos.	239	660,382	121	670,697	200,442	47,097	73,238	187,083	36,479	544,339	81.2	126,358	107,441	40,541	30,562
Union Pacific	May	3,589	4,501,143	474,867	5,561,988	737,261	1,323,169	161,452	1,904,302	179,797	4,407,285	79.2	1,154,703	745,160	534,502	748,414
	5 mos.	3,597	21,046,863	2,015,613	25,492,050	2,560,146	6,124,584	664,782	8,805,399	1,433,484	20,000,669	78.5	5,491,381	3,440,457	2,468,801	3,493,095
Oregon Short Line	May	2,504	1,388,660	110,025	1,641,369	495,615	299,024	45,037	586,718	60,228	1,510,817	92.0	130,552	—91,282	—161,479	143,393
	5 mos.	2,504	7,461,682	463,822	8,543,519	1,189,080	1,537,175	178,602	2,917,027	479,962	6,400,925	74.9	2,142,594	1,032,707	636,730	879,020
Oregon-Wash. R. R. & Nav. Co.	May	2,271	966,081	119,188	1,229,408	296,323	203,600	64,191	513,290	59,038	1,144,751	93.1	84,657	—40,388	—141,073	—118,252
	5 mos.	2,285	4,877,168	469,201	5,966,571	1,058,971	939,057	261,166	2,461,718	434,473	5,191,111	87.0	775,460	149,760	—305,401	—30,088
Los Angeles & Salt Lake	May	1,234	1,092,796	163,349	1,380,272	193,148	230,539	60,301	447,753	37,570	1,008,744	73.1	371,528	256,450	152,993	299,756
	5 mos.	1,234	5,516,075	652,778	6,711,266	866,250	1,124,100	254,572	2,105,185	284,791	4,802,216	71.6	1,909,050	1,333,185	792,951	1,024,449
St. Joseph & Grand Island	May	258	191,870	2,401	202,847	46,685	22,109	2,296	73,919	8,364	154,138	76.0	48,709	38,357	11,757	47,644
	5 mos.	258	995,990	9,333	1,039,913	185,802	110,367	12,089	359,416	61,053	732,423	70.4	307,490	245,630	122,051	289,523
Utah	May	111	41,796	.....	41,959	12,627	18,498	541	12,453	4,786	48,905	116.6	—6,946	—13,471	—15,563	—23,967
	5 mos.	111	386,336	.....	387,882	57,351	108,556	2,522	95,801	26,571	290,801	75.0	97,081	44,419	17,604	—56,927
Virginian	May	619	1,214,892	2,631	1,261,239	99,212	220,965	17,926	219,235	28,631	585,156	46.4	676,083	526,035	562,143	480,080
	5 mos.	619	5,974,715	15,118	6,243,935	469,669	1,123,520	87,201	1,143,059	138,207	2,960,084	47.4	3,283,851	2,523,797	2,716,704	2,700,872
Wabash	May	2,447	3,025,900	169,897	3,463,954	440,235	575,827	154,968	1,323,827	16,042	2,520,312	72.8	943,642	808,482	546,117	501,542
	5 mos.	2,447	15,206,073	825,636	17,190,400	1,803,361	2,910,487	695,034	6,633,897	754,667	12,839,471	74.7	4,350,929	3,672,227	2,178,864	2,090,313
Ann Arbor	May	293	294,584	2,062	304,893	27,228	62,708	11,576	125,296	877	227,815	74.7	77,078	63,596	39,278	44,368
	5 mos.	293	1,516,245	10,956	1,563,110	119,262	326,006	56,339	643,606	63,555	1,208,855	77.3	354,255	286,894	190,681	149,310
Western Maryland	May	891	1,144,283	5,366	1,193,828	166,209	310,731	37,057	298,356	48,269	864,065	72.4	329,763	269,763	288,210	321,066
	5 mos.	891	5,920,452	31,067	6,162,471	716,241	1,563,051	182,854	1,609,203	237,702	4,331,242	70.3	1,831,229	1,531,229	1,666,777	1,817,694
Western Pacific	May	1,213	955,697	23,693	1,018,910	211,962	171,669	57,080	410,640	Cr. 113,996	756,755	74.3	262,155	195,672	178,736	111,065
	5 mos.	1,213	4,139,323	100,525	4,423,448	765,547	831,861	269,364	1,888,497	85,628	3,921,550	88.7	501,898	174,527	27,945	343,339
Wheeling & Lake Erie	May	511	1,062,651	1,247	1,126,861	179,260	284,650	31,033	317,904	Cr. 24,610	787,999	69.9	338,862	242,767	246,835	144,556
	5 mos.	511	5,025,004	6,723	5,299,788	711,618	1,598,821	150,914	1,579,212	143,027	4,183,057	78.9	1,116,731	723,752	677,698	812,228
Wichita Falls & Southern	May	203	44,766	75	48,697	8,589	7,204	1,850	14,873	2,852	35,368	72.63	13,329	11,189	7,899	6,758
	5 mos.	203	179,078	219	199,621	41,904	33,432	8,622	66,024	18,329	168,311	84.32	31,310	20,129	6,902	23,902